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VOL. XIX. NO 12.

JUNE 15, 1891.

PEACE ON EARTH
GOOD-WILL TOWARD MEN



CLEANING
IN

BEE CULTURE

S. W. Conrad
Prop.

DEVOTED
TO

BEES

& HOME INTERESTS.

MEDINA OHIO

BY

AL ROOT

TERMS, ONE DOLLAR PER YEAR.

W. F. HARTING, DUNELLEN, ILL.

Advanced Bee Culture;

ITS METHODS AND MANAGEMENT. I am now engaged in writing and printing a book that is to bear this title. It is to take the place of my other book, *The Production of Comb Honey*, which will not be re-published. Although the new book will contain at least five or six times as much matter as *The Production of Comb Honey*, yet the price will be only 50 cts. The book is already partly printed, and will probably be out some time in April or May. If any of the friends would like to "help me along" in meeting the expenses of getting out the book, they can do so by sending their orders in advance. Such orders will be most thankfully received, and filled the *very day* the book is out. I will send the REVIEW one year and the book for \$1.25. The REVIEW will be sent on receipt of order (I have plenty of back numbers to send it from the beginning of the year), and the book as soon as it is out. Stamps taken, either U. S. or Canadian. 10tfdb

W. Z. HUTCHINSON, Flint, Mich.

In responding to this advertisement mention GLEANINGS.

LEATHER-COLORED

PRICE LIST FREE ON APPLICATION.

A. E. MANUM, - - BRISTOL, VT.

ITALIAN QUEENS.

Please mention this paper.

7-14db

DR. TINKER'S SPECIALTIES!

The Nonpareil Bee-hive and Winter case, White Poplar Sections, Wood-zinc Queen-Excluders, and the finest and best Perforated Zinc now made.

Send for catalogue of prices, and inclose 25 cts. for the new book, **Bee-keeping for Profit.**

Address
21tfdb

DR. G. L. TINKER,
New Philadelphia, O.

In writing to advertisers please mention this paper.



In responding to this advertisement mention GLEANINGS.

FIVE-BANDED BEES.

If you want queens that will produce the **hand-somest and gentlest** bees on earth, bees that you can handle without smoke and get less stings than you will from the three-banded, or leather-colored bees, with smoke—if you want bees that are good workers, if you want bees that combine all these good qualities, then buy one of the queens that produce the **Golden Five-banded Bees**. My queen and bees took **first premium** at the Detroit Exposition last fall. I can fill orders promptly, for **Golden Five-Banded** untested queens, for \$1.00 each; 6 for \$5.00; or 12 for \$9.00. I have a few of the tested Alley queens, that I will sell for \$2.00 each. Make money orders payable at Flint, Mich. 11tfdb

ELMER HUTCHINSON,
ROGERSVILLE, GENESEE CO., MICH.

Please mention this paper.

No Disease of any Kind was ever Known in our Mountain Region of West Virginia.

FOR SALE.—A few queens, reared upon the most scientific principles, from the **very best** American-bred stock.

Pay part cash now, and balance by writing letter next November. Three queens for \$2.25. Satisfaction guaranteed. 11-16db

T. K. MASSIE,
CONCORD CHURCH, MERCER CO., W. VA.

In responding to this advertisement mention GLEANINGS.

IN JUNE, one-year-old Tested Italian queens, 75c. Mismatched Italian queens, 30c. 11-12db
J. C. WHEELER, Plano, Ill.

ELLISON'S

ITALIAN QUEENS

FROM THE FINEST STOCK.

1 Untested Queen \$.75.
3 " Queens 2.00.
1 Tested Queen 1.50.
3 " Queens 4.00.
2-frame Nuclei, with any queen, \$1.50 each extra. 11-12d
Safe arrival and satisfaction guaranteed.
W. J. ELLISON, Catchall, Sumter Co., S. C.

In responding to this advertisement mention GLEANINGS.

Don't Forget Our Root Bees.

THIS MONTH, Tested Italian queens, \$1.25; 3 for \$3.50; Untested, 75 cts.; 3 for \$2.00. One, two, and three frame nuclei, from \$2.00 to \$3.50 with queens. **Sections, Foundation,** and all kinds of bee-keepers' Supplies in stock. Catalogue free. 9tfdb

JOHN NEBEL & SON, High Hill, Mo.

Please mention this paper.

75 CENTS EACH FOR UNTESTED QUEENS FROM IMPORTED OR FIVE-BANDED GOLDEN MOTHER. IMPORTED ITALIAN QUEENS.
W. C. FRAZIER, ATLANTIC, IOWA.

7-17db

Please mention this paper.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.

6tfdb

NOVELTY CO.,

Rock Falls, Illinois.

EGGS! Brown Leghorn, White Leghorn, \$1.25. Black Minorca, Plymouth Rock, Pekin Duck, \$1.50. Light Brahma, Langshan, Game, \$2 per 13 eggs. Strictly pure-bred. Ship safely anywhere. Illustrated circular free. **GEER BROS.,** 11tfdb St. Marys, Mo.

PASTEBOARD BOXES.

CRAWFORD'S SECTION CARTONS ARE JUST WHAT YOU WANT.

SEND FOR NEW PRICE LIST.

A. O. CRAWFORD,

11tfdb

SOUTH WEYMOUTH, MASS.

In responding to this advertisement mention GLEANINGS.

BEE SWAX

FOR SALE.—Crude and refined. We have constantly in stock large quantities of Beeswax, and supply the prominent manufacturers of comb foundation throughout the country. We guarantee every pound of Beeswax purchased from us absolutely pure. Write for our prices, stating quantity wanted. **ECKERMANN & WILL,**

Bleachers, Refiners, and Importers of Beeswax,

Syracuse, N. Y.

5-16db

In responding to this advertisement mention GLEANINGS.



"I tell you what, Jones, Levering Bros. sell the best goods and at the lowest prices of any one I've struck yet."

The LARGEST and BEST EQUIPPED BEE-HIVE FACTORY IN THE WEST.

THE NEW DOVETAILED HIVE A SPECIALTY.

Every thing used by practical bee-keepers by wholesale and retail. Send for our '91 illustrated price list and save money. Address 4-15db

LEVERING BROS., Wicta, Cass Co., Ia.

In responding to this advertisement mention GLEANINGS.

BEE-KEEPER'S GUIDE.

16TH THOUSAND JUST OUT.

Plain, Practical, Scientific. Every farmer and bee-keeper should have it.

PRICE REDUCED TO \$1.00. Liberal discount to dealers. Address 8-18db

A. J. COOK, Agricultural College, Mich.

Please mention GLEANINGS.

BEES and yellow **E**VEN the Best **E**xcel. They
Italian Queens **E**lect Tested \$1.25. do all other
for sale in June **E**ntested \$1.00. seasons my
at Chenango **E**Order early. old custom-
Valley Apiary. Send for circular. ers will say.
MRS OLIVER COLE, Sherburne, Chenango Co., N. Y.
Please mention this paper.

TESTED ITALIAN QUEENS.

\$1 each; untested, 75c; 3 for \$2.00, or 12 for \$7.00. Three-frame nucleus, with tested queen, \$3.00, now ready to ship. 11tfdb **GOOD BROS., Nappanee, Ind.**

In writing advertisers please mention this paper.

Look Here!

Nice white one-piece sections. No. 1, \$3.00 per M.; No. 2, \$2.00 per M. Tested Italian queens, \$1.50 each, in May. A 20-page price list free. 10-11-12d

J. M. KINZIE, ROCHESTER, MICH.

Please mention this paper.

Western Bee-Keepers' Supply House

Root's Goods can be had at Des Moines

Iowa, at **Root's Prices.**

The largest supply business

in the West. Established 1885

Dovetailed Hives, Sec-

tions, Foundation, Ex-

tractors, Smokers, Veils,

Crates, Feeders, Clover

Seeds, etc. Imported

Italian Queens. Queens and

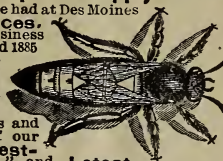
Bees. Sample copy of our

Bee Journal, "The West-

ern Bee-keeper, and Latest

Catalogue mailed Free to Bee-keepers.

JOSEPH NYSEWANDER, DES MOINES, IOWA.



3898

In responding to this advertisement mention GLEANINGS.

Cash for Beeswax!

Will pay 28c per lb. cash, or 30c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 33c per lb., or 37c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Leahy M'f'g Co.,

—UNDOUBTEDLY THE—

LARGEST PLANT IN THE WEST,

Built exclusively for the manufacture of Apian Supplies. One and One-Half Acres Floor Space. We sell as Cheap as the Cheapest, and our goods are as Good as the Best. Parties will do well to write us for estimates on large orders. We will send you our catalogue for your name on a postal card. Address **LEAHY MFG. CO.,** Higginsville, Mo. 7tfdb

Please mention this paper.

\$5.00 IN MAY, AND \$4.50 IN JUNE,

—WILL BUY—

A Strong Full Colony of Pure Italian Bees

in Root's new Dovetailed or the old Simplicity hive, as you prefer. Each to contain a fine tested queen and plenty of bees and brood. Everything first-class. Pure Japanese Buckwheat, per bu., \$1; ¼ bu., 60c; ½ bu., 35c, bag included. Scotch Collie Pups, \$4 each.

N. A. KNAPP, Rochester, Lorain Co., O.

6tfdb

Please mention this paper.

NEBRASKA

3-frame nucleus (without queen) \$2.00.

3-frame nucleus (with tested queen) \$3.50.

3-frame nucleus (with queen from our own apiary) each, \$2.56. Pure Italian queens, each, \$1.50. Descriptive price list free. **J. M. YOUNG,** Plattsmouth, Neb. Box 874. 7tfdb

Please mention this paper.

BEST ON EARTH



ELEVEN YEARS WITHOUT A PARALLEL, AND THE STANDARD IN EVERY CIVILIZED COUNTRY.



**Bingham & Hetherington
Patent Uncapping-Knife,**

Standard Size.

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3 ½ in.,	postpaid	... \$2.00
Conqueror "	3 "	"	... 1.75
Large "	2 ¼ "	"	... 1.50
Extra (wide shield)	2 "	"	... 1.25
Plain (narrow)	2 "	"	... 1.00
Little Wonder,	1 ¼ "	"65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, **F. A. SNELL.**

Vermillion, S. Dak., Feb. 17, 1890.

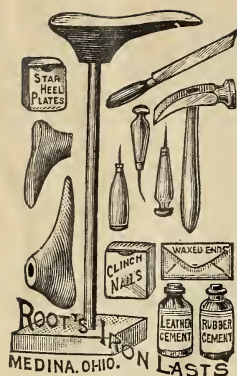
SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, **R. A. MORGAN.**

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, **DANIEL BROTHERS.**

Send for descriptive circular and testimonials to 1tfdb **BINGHAM & HETHERINGTON, Abonia, Mich.**

In responding to this advertisement mention GLEANINGS.



ROOT'S HOUSEHOLD REPAIRING-OUTFIT,

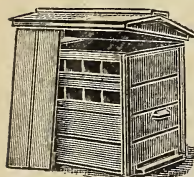
consisting of tools and material shown in this cut, enables every one to do his own half-soling, boot, shoe, rubber, and harness repairing. No pegs required—simply wire clinch nails. Anybody can use it. Cheapest and handiest combination ever offered. Entire outfit neatly boxed weighs 20 lbs., only \$2.00. Sells like hotcakes.

Agents wanted everywhere. Send for circular and terms to

ROOT BROS., MEDINA, O.

Please mention this paper.

KIRKPATRICK'S CHAFF HIVE AND HIVE-PROTECTOR.



I want every bee-keeper in the land to see a sample of my CHAFF HIVE and Hive-protector, especially those who contemplate attending the County and State Fairs, and wish to buy and sell supplies. You should have a sample, and then you can decide for yourself as to whether the hive will suit or not. Please remember, that this Hive is made of clear yellow poplar, tongued and grooved together, cleated at the corner with a corner post; tin roof well painted, and, in short, nice enough and good enough for a KING. Please send \$2.00 and get a sample, with a set of brood-frames, one T super filled with sections and starters. Weight, when crated ready to ship, only 50 lbs. My Hive-protector is made of the same material as the Chaff Hive, and has nearly the same appearance. Please send \$1.40 and get a sample. Catalogue free.

GEO. H. KIRKPATRICK, Union City, Ind.

In responding to this advertisement mention GLEANINGS.

CARNIOLAN QUEENS,

THE FINEST IN THE LAND.

All reared from imported stock; warranted purely mated. 75c each, six for \$4.00. Tested, \$1.00 each; six for \$5.00. Address

J. A. ROE, Union City, Ind.

In responding to this advertisement mention GLEANINGS.

UNTESTED QUEENS

Only 50 cts. each from June 1st, 1891, to Dec. 1, 1891. The mother of these queens is the largest I ever saw, and extra prolific; bees gentle and finely marked, and hustlers, and don't you forget it. Her queens are of almost all golden yellow, except at the tip of the abdomen. These prices for this season only, as an introduction. Address

DR. ENOCH ANDERSON, Dentist, Comanche, Comanche Co., Tex.

In responding to this advertisement mention GLEANINGS.

DISCOUNTS on all SUPPLIES!

All best improvements combined in hives, supers, etc. Special sizes made to order. Send for price list to **OLIVER FOSTER, Mt. Vernon, Linn Co., Ia.** Please mention this paper.

Italian

12d

No. 150 Military Ave., Detroit, Mich.

I will have from now on, nice, young, yellow queens, to mail to those who want

QUEENS for BEAUTY and BUSINESS, only 60 cts. each; 3 for \$1.50.

CHAS. L. HILL, Dennison, Ohio.

Tested * Queens * Cheap.

I have a number of nice tested queens, many of them raised last season, that I will sell for \$1.00 each. Hybrids, 25 cents each.

12tfdb

J. A. GREEN, Dayton, Illinois.

In responding to this advertisement mention GLEANINGS.

Bee-keepers, Look Here!

Leininger Bros. are going to rear 1000 Queens this year from one of G. M. Doolittle's best queens; and if you want bees for

Business * Beauty Combined,

try one of their queens. In June, \$1.00; tested, \$1.70; select, \$2.50. The very best, \$4.50. Descriptive circular free.

10tfdb

LEININGER BROS., Ft. Jennings, Ohio.

In responding to this advertisement mention GLEANINGS.

New Orleans Apiaries.

Untested Italian and Carniolan Queens, for May and June, \$1.00 each; after, 75 cts.

10tfdb

BEES for BEAUTY and BUSINESS.

Purity and safe arrival guaranteed. Address

WINDER & SIPLES, 576 MAGAZINE ST.,

NEW ORLEANS, LA.

In responding to this advertisement mention GLEANINGS.

CHEAP ENOUGH.

Sections, \$3.00 per 1,000. Foundation, 45 cts. per pound; Chaff Hives, \$1.25 each; Simplicity hives, 90 cts. each; Dovetailed hives, 80 cts. each, and every thing needed in the apiary, cheap. Send for illustrated price list for 1891, free.

"How I Produce Comb Honey,"

by mail, 5 cts. Third edition just out. Address

GEO. E. HILTON, Fremont, Mich.



3tfdb

Please mention this paper.

Black and Hybrid Queens For Sale.

I have hybrid queens for sale at 25c each, or 5 for \$1.00. **ALBERT HINES, Independence, Buch. Co., Ia.**

75 hybrid queens for sale at 30 cts. each, 50 cts. for selected; 5 black at 20 cts. each. Most are clipped and young.

CHARLES H. THIES,

Steeleville, Randolph Co., Ill.

Now ready to mail, fine mismated Italian queens at 25c each. **N. A. KNAPP, Rochester, Lorain Co., O.**

About 30 black and hybrid queens at 25c each, or 5 for \$1.00. About a dozen are almost pure Italians. We do not think any of them are pure black, but almost. Should the queen you want be gone we will substitute, unless you say not to.

S. F. & I. TREGO, Swedona, Ill.

During the next six weeks I will have 125 or 150 black and hybrid queens for sale at following prices: When cages are sent with order, 1, 30c; 6, \$1.70; 12, \$3.00.

R. C. EWING, Jr., Liberty, Mo.

A few mismated Italian, hybrid, and black queens, 40 cts. each, or 3 for \$1.00. First come, first served.

W. A. CARTMELL, Crowley, Tarrant Co., Texas.

One dozen hybrid queens for sale at 35 cts. each, or 3 for \$1.00. Raised last year, and clipped this spring.

H. L. FISHER, Milford, Ind.

Fine mismated Italian queens, 30 cts. each.

GEO. P. HOWELL, Dauphine and Andry Sts., New Orleans, La.

HONEY COLUMN.

CITY MARKETS.

COLUMBUS.—*Honey.*—Choice clover, 20c. Market bare. Nice goods would sell readily. Dark and extracted not wanted, as there is no sale at any price.

EARLE CLICKENGER,
Columbus, Ohio.

June 7.

ST. LOUIS.—*Honey.*—Comb market unchanged. Extracted and strained, slow at 6c here in barrels; 7½ in cans. Prime beeswax, 28½.

D. G. TUTT GROCER CO.,
St. Louis, Mo.

June 8.

KANSAS CITY. *Honey.*—Choice one-pound comb honey out of the market. Dark one-pound comb, 12 cts.; two-pound, 11 to 12 cts. Extracted, white, 7 cts.; dark, 5 cts. *Beeswax*, 28 cts.

HAMBLIN & BEARSS,
514 Walnut St., Kansas City, Mo.

SAN FRANCISCO.—*Honey.*—New honey not in yet; old scarce at 5½@6. Comb honey sold out. *Beeswax* scarce, but less demand. 25@26c.

SCHACHT, LEMCKE & STEINER,
San Francisco, Cal.

May 25.

CHICAGO.—*Honey.*—Not any comb honey on sale. Some nice white would bring 17c. Extracted, quiet at 7@8c. *Beeswax*, 28c.

R. A. BURNETT,
161 S. Water St., Chicago, Ill.

DETROIT.—*Honey.*—None in market to quote. *Beeswax*, firm, 29@30c.

Bell Branch, Mich., June 8.

M. H. HUNT.

KANSAS CITY.—*Honey.*—No choice white 1-lb. comb on the market. Plenty of 2-lb. comb and extracted, both very slow sale. 2-lb. comb we quote at 10@12c; extracted, 6@6½. *Beeswax*, 25@27c.

CLEMENS, MASON & CO.,
Kansas City, Mo.

FOR SALE.—I have a lot of honey in 60-lb. tin cans, two cans in a case, which I wish to dispose of. I have also comb honey in one-pound sections.

Write. J. D. ADAMS, Nira, Ia.

I am prepared to furnish pure extracted honey in 60-lb. tin cans. New cases and cans; graded goods. Carloads a specialty. Address E. LOVETT,
San Diego, Cal.

11tfdb

UNTESTED QUEENS,

until June 1st, \$1.00; after June 1st, 75 cts.; \$8.00 per doz. Tested queens, after June 1st, \$1.50. Select tested, \$2.00. Bees by the pound until June 1st, \$1; after June 1st, 75 cts. Can supply any demand from first of May. Untested, in May, \$9.00 per doz. 8tfdb

PAUL L. VIALON, BAYOU GOULA, LA.

12 In responding to this advertisement mention GLEANINGS.

CARNIOLAN BEES AND QUEENS.

QUEEN-REARING a specialty. This race of bees are the gentlest, most prolific, and the best of honey-gatherers. Don't fail to send for circular. Address 11tfdb

A. L. LINDLEY, Jordan, Ind.

Please mention this paper.

SEND to M. S. West, Flint, Mich., for circular of Bee Supplies. Wax made into foundation. 10d

ITALIANS

9tfdb Box 77.

12 In responding to this advertisement mention GLEANINGS.

Tested queen, \$1.25; Untested, 80c. Nuclei, brood, and bees by the lb. Send for price list.

MRS. A. M. KNEELAND,
Mulberry Grove, Bond Co., Ill.

DRY BROOD-COMBS.

I have for sale about 160 Simp. brood-combs, about ½ wired. Price 10c each; or \$15 cash for the lot. Must be sold before July. Also lot of new and second-hand bee-supplies, hives, crates, sections, etc. Correspondence solicited. 12d

G. WIEDERHOLD, Yonkers, N. Y.
Please mention this paper.

HONEY QUEENS.

Bred from two of A. I. Root's selected queens, now as follows: Warranted (mated to Italian drones), \$1; 6 for \$5.00; tested (young) \$1.75; select, \$3 to 5. All this season's rearing.

FIVE-BANDED ITALIANS

at above prices. Sample bees of either, 5 cts. Safe arrival guaranteed. 12tfdb

JACOB T. TIMPE, Grand Ledge, Mich.

Please mention this paper.

AMERICAN BEE JOURNAL

32 pages—\$1.00 a year—Sample Free.

The oldest, largest and cheapest Weekly bee-paper

THOMAS G. NEWMAN & SON,

246 East Madison Street, CHICAGO, ILL.

Please mention this paper.

Wants or Exchange Department.

Notices will be inserted under this head at one half our usual rates. All advertisements intended for this department must not exceed five lines, and you must say you want your ad't in this department, or we will not be responsible for errors. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange foundation, both light and heavy, for any quantity of wax. 10-11-12d
B. CHASE, Earlville, N. Y.

WANTED.—To exchange Simplicity hives, and L. frames, filled with combs, nearly all worker, for bees, any breed, or Barnes foot-power saw. 11tfdb
L. W. NASH, West Kennebunk, York Co., Me.

TO EXCHANGE, a one-horse ensilage-cutter, or Brown Leghorn eggs, for a small hand hay-cutter, or offers. A bargain for some one. 1-12d
C. W. COSTELLO, Waterboro, Me.

WANTED.—To exchange wall paper, from 5c a roll and up, for honey. J. S. SCOVEN,
12tfdb Kokomo, Ind.

WANTED.—To exchange pen R. C. B. Leghorns and strawberry-plants for bees. 12d
F. L. WOTTON, Darien, N. Y.

WANTED.—To exchange a complete Horsman's photographic outfit No. 2, for one stand of Italian bees. Correspond. Address
JAS. R. HUGHES, 323 N. 9th St., Richmond, Ind.

WANTED.—To exchange pure Scotch collie pups for tested Italian queens. 12tfdb
N. A. KNAPP, Rochester, Lorain Co., O.


WANTED.—To exchange a 10-inch Pelham fdn. mill, a Wilson No. 1 bone and feed mill, bees, honey, and supplies, for a small printing-press, shotgun, wax, or offers. Send for price list. 12tfdb
OLIVER FOSTER, Mt. Vernon, Linn Co., Ia.

WHAT am I offered in exchange for a complete printing-outfit? 12x18 Golding jobber, 6x10 Nonpareil, 2 H. P. engine, type, etc.; cost about \$400. 12-13d
CYRUS MCQUEEN, Baltic, O.

Brother Bee-keepers,

Try 500 or 1000 of our No. 2 Sections, only \$2.00 per 1000. They are extra nice. No. 1, \$3.00; 8-frame hives, 2 supers, 90c; 10 for \$8.00. Every thing cheap. Send for list, free. 12d


W. D. SOPER & CO., JACKSON, MICH.

 In responding to this advertisement mention GLEANINGS.



NICE QUEENS

ready to mail, 75 cts. Reared from a Doolittle Select Mother, by his method, ½ doz., \$3.25; doz., \$6.00. Safe arrival and satisfaction guaranteed. 12ftdb
JOHN B. CASE, PORT ORANGE,
VOLUSIA CO., FLA.

 In responding to this advertisement mention GLEANINGS.

SUPPLIES.

Standard goods, best shipping-point, reasonable price. 30-page catalogue free.

WALTER S. POWDER, 175 E. Walnut St.,
6-18db Indianapolis, Ind.

YELLOWEST ITALIANS.

My bees are the brightest and gentlest bees, and for honey-gatherers are equal to any. Send 5 cts. for sample and be convinced. One queen by mail, \$1.00.
J. F. MICHAEL, German, Darke Co., Ohio.
Please mention this paper. 11-16db

OTTUMWA BEE-HIVE FACTORY.

We have a nice supply of hives in the flat, which we will sell as follows: The A. I. Root Simplicity, for extractor, \$1.50; 5 for \$7.00. Simp. for comb honey, with 2 T supers, sections, foundation starters, wood separators, and honey-board complete, in flat, each, \$2.10; 5 for \$10.00. Portico hive with Simplicity upper story, in flat, for the same price.

The improved Langstroth-Simplicity, in flat, eight-frame, 1½ story, each, 90 cts.; 5 for \$4.00; ten-frame, 1½-story, each, \$1.00; 5 for \$4.50; eight-frame, 2-story, each, \$1.20; 5 for \$4.75; ten-frame, 2-story, each, \$1.30; 5 for \$5.25. Dovetailed hives, the same price as the eight-frame hives above.


SHIPPING-CRATES.

12-lb. crate, 11 cts. each; 16-lb., 13 cts.; 24-lb., 14 cts.; 48-lb., 16 cts. each.

Comb foundation.—Heavy brood, 48c; thin, 58c; extra thin, 68c.

Pound sections, snow-white, at \$3.50 per 1000. No. 1, cream, \$3.00. Bee-veils, cotton tulle, with silk tulle face, 75 cts. each. Bingham smokers at manufacturer's prices. Write for prices to 5ftdb

GREGORY BROS. & SON, OTTUMWA, IA. SOUTH SIDE.


 In responding to this advertisement mention GLEANINGS.

Porter's Spring Bee-Escape.

We guarantee it to be the best escape known, and far superior to all others. If, on trial of from one to a dozen, you do not find them so, or if they do not prove satisfactory in every way, return them by mail within 90 days after receipt, and we will refund your money.

PRICES:—Each, by mail, postpaid, with full directions, 20c; per dozen, \$2.25. Send for circular and testimonials. Supply dealers, send for wholesale prices. 10ftdb

R. & E. C. PORTER, LEWISTOWN, ILL.


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A glimpse of our Factory, now making carloads of Dovetailed Hives, Lang. Simp. hives, plain Lang. hives. Alternating hives. Chaff hives, sections, etc. Many articles not made by others.

We can furnish, at wholesale or retail, Every thing of practical construction needed in the apiary, and at Lowest Prices. Satisfaction guaranteed. Send for our New Catalogue, 51 illustrated pages, free to all. 4ftdb

E. KRETCHMER, Red Oak, Iowa.


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Guaranteed to Give Satisfaction.

Untested queen, 70c. Tested, \$1.00. Queens that swarm 1 year old, 60c each. All Italian, and good honey-gatherers. Ready to mail. 11-12d

W. J. JOHNSON,


ACKERMANVILLE, NORTHAMPTON CO., PA.

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THOSE ALBINO ITALIANS

are the easiest kept from swarming, and are the gentlest bees. Try one. Tested queens, \$1.25; select tested, \$1.75; warranted 75c each. Safe arrival guaranteed. 12-13d

JOHN MOSER, FESTINA, IA.

 In responding to this advertisement mention GLEANINGS.

Carniolan Queens, Bred from an Imported Mother.

Tested - - - - - \$2.00

Untested - - - - - .75


CORNELIUS BROWN, Box 61, Dayton, O.

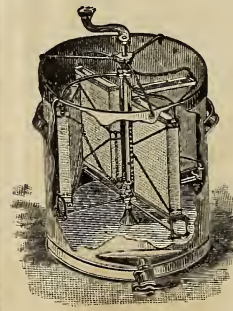
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NEW FACTORY.

No. 1 Sections, \$3.50; No. 2, \$2.75. Fine Comb Foundation a specialty.

M. S. ROOP, 520 East Broadway,
6-17db Council Bluffs, Ia.

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5ftdb

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EVERY THING

USED BY

BEE - KEEPERS.

EDWARD R. NEWCOMB,

Pleasant Valley, N. Y.

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
Bee - Keepers' * Supplies.

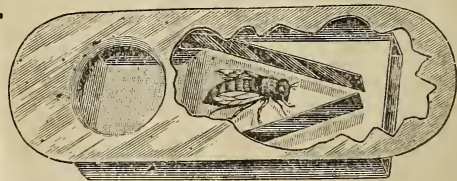
We are prepared to furnish bee-keepers with supplies promptly and at lowest rates. Estimates gladly furnished, and correspondence solicited. Our goods are all first class in quality and workmanship. Catalogue sent free. Reference, First National Bank, Sterling, Ill. Address


WM. McCUNE & CO.,

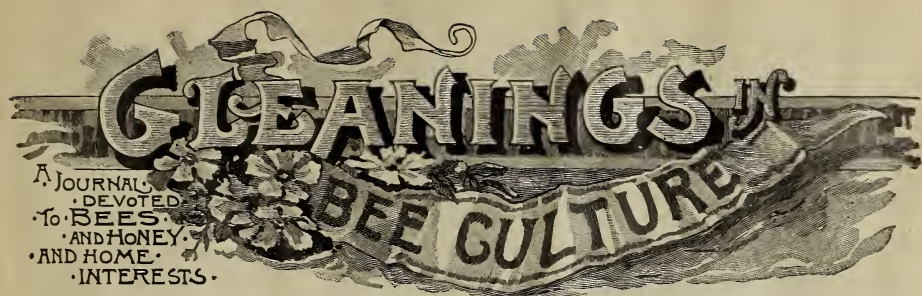
Sterling, Illinois.

21-20db

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Published by A. I. Root, Medina, O.

Vol. XIX.

JUNE 15, 1891.

No. 12.

STRAY STRAWS

FROM DR. C. C. MILLER.

GLOVES AND APRONS might be discussed, for variety, by the ladies.

PROPOLIS. W. E. Burkitt (*B. B. J.*) uses vaseline to prevent propolization. Heddon says tallow.

IF CROSS BEES trouble you, and chase you all over the apiary, watch closely and see if they don't come from one particular hive, after you have disturbed it. Then take the queen of that hive, and mash her up very fine.

"PREVENTION OF SWARMING" is a caption that always makes me prick up my ears. Then the instructions for prevention commence something like this: "When the swarm issues," and down go my ears, limpas before. What I want to know how to prevent the swarm issuing at

EXCLUDER ZINC for virgin queens should be made with smaller holes than that for laying queens, according to some statements. Is the wax of a queen really any smaller before commencing to lay than after? For it is the wax, and not the abdomen, that hinders a queen from getting through.

THE PRODUCTION of comb honey I doubt whether there is a profitable method of preventing swarming. It may be discouraged by giving as much surplus room as possible; but ventilation does not equal drawn comb as a discouragement to swarming.—*Hutchinson, at a Convention (A. B. J.)*.

WAX SCALES, *Hutchinson* says, are not found on the bottom-board when a swarm is hived on combs, because the bees stick them on the boards. Well argued: still, they don't stick on old combs a fourth the wax they would use if they had no combs. What becomes of the wax if secreted whether needed or not?

REMOVE A HIVE about noon, when most of the bees are a-field, and put in its place another hive, and the returning bees will join the new colony. Yes, but why the constant advice to move at noon? Try moving at midnight, or at other time, and see if you will not have as many bees join the new colony.

P. HENDERSON, after years of careful selection, has succeeded in producing worker bees excelled by any thing I have ever seen; variety of coloring being standard. As to quality, otherwise, he is candid enough to say, "If I make any more or less honey than common bees, or winter better or worse, I haven't proved it."

RENEWING COMBS. A correspondent of the *A. B. J.* asks how to renew combs three or four years old, and the reply shows that the editor thinks it is all right. Ought we not to come to an understanding? Either we are away off in making combs twenty years, or they are making a great waste in melting up combs having no more fault than three years' age.

THE PUNIC (OR AFRICAN) BEE is described by the Hallamshire Bee-keeper in *A. B. J.* as a thing truly wonderful. Ebony black; gentler than the common black; gentlest and

hardest known; get more honey than any others; live longer; a strong colony can be divided into twenty at the end of May, and each will build up in a good season, without feeding, into a ten-frame colony well stored for winter, and yield one or two twenty-pound supers of honey from the heather; fill sections fuller, and cap them whiter than others; eat the hardest and driest sugar; non-robbing, and leave 200 to 600 queen-cells at swarming. I believe an imported queen can be had for about \$40.

GENERAL CORRESPONDENCE.

SHIPPING FULL COLONIES OF BEES BOTTOM SIDE UP.

PLAN OF SHIPPING BEES ANY DISTANCE. IN ANY WEATHER, AND BY ANY CONVEYANCE.

Slide the hive back on the bottom-board and close the entrance, Fig. 1. Remove the cover, but not the cloth; lay on an extra bottom-board, face side down, 2. Fasten with screws, 3, into each side of the hive. Take hold of the front end of the hive and turn it on the end, following the direction of arrow, *a*; then turn again till it rests with the top side down, Fig. 2. Have a piece of bunting (cheese-cloth), 4, ready, which should be four inches larger each way than the hive, and spread it over the bottom of the frames, 4, having first removed the bottom-board. Now slip on the wire band, Fig. 3, and crowd it down over the bunting and hive about an inch, 5. Have ready a block, 2x $\frac{1}{4}$, and as long as the hive is wide, with a sufficient number of holes to accommodate the number of frames you have in the hive. Fasten this a

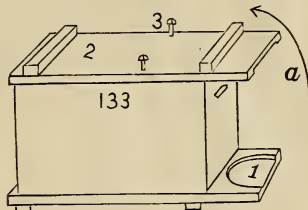


FIG. 1.

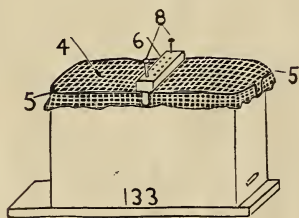


FIG. 2.

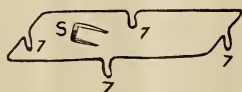


FIG. 3.

A PLAN OF SHIPPING BEES UPSIDE DOWN.

each end with an eight-penny wire nail, the slip a ten-penny nail down the side of each frame, to hold them so they can not swing side wise.

You may now load into a wagon or any other vehicle all the hives you have so prepared, and drive on the run, if you wish, to any distance desired, and no bees will be killed, no comb broken, no bees getting out to sting the horses. When you are to ship on the cars, wire cloth is to be used in place of bunting, with a few carpet-staples over the wire hoop. I have shipped bees in July, when it was 100° in the shade, a distance of 18 miles, and warranted their safe arrival, and in a common lumber-wagon. They reached their destination in good order. The hoop should be made of tinners' stiff bale wire; and the loops, 7, 7, 7, 7, should be put in so the hoop may spread to accommodate itself to any variation in size of hive, and should be turned down, and not stand out at right angles with the hive, as that would interfere with close packing.

Ponca, Neb.

J. W. PORTER.

[Although you do not say so, I presume the reason why you turn the hives upside down is to get the heaviest part of your combs—that is, the part holding the sealed honey—next to where the bottom-bar was formerly. This brings the empty part of the combs to the top. I have no doubt there is an advantage in this. It seems to me, however, that the work required to get colonies in this condition more than counterbalances the advantage.] E. R. R.

we had a good shower, and then another the next day. Then we had a day of sunshine with drying winds again, and it seemed as if our two good showers were gone. The ground was rapidly becoming as thirsty as it had been before. Then, on the 23d of May, came one of our tremendous rains; then came more on the night of the 25th; then followed a steady rain on the 29th. More followed the night of the 1st inst. Then at 11 o'clock on the forenoon of the 3d came one of our tremendous rains, that came down in such volume that the water poured down the roadsides, and even commenced to break through the furrows that run crosswise on the side-hill. It seemed for a time as if we had almost too much; but in 24 hours more I decided it was exactly what was needed. The ground is now as thoroughly soaked as it was last spring; and, oh how things do grow! Our 2000-barrel cistern, under the united roofs of all our buildings, for the first time in its history is filled, or was filled, within an inch of the outlet. And this is all *rain* water. With our hydrants mentioned in our last issue, this immense volume of rain water in one sense hangs right over our plant-garden; and if more is wanted, the windmill tank on the hill is ready to pour out its contents. What a blessing is water in abundance! And now, friend N., we hope the big rains have extended clear to your Wisconsin home, as well as everywhere else.]

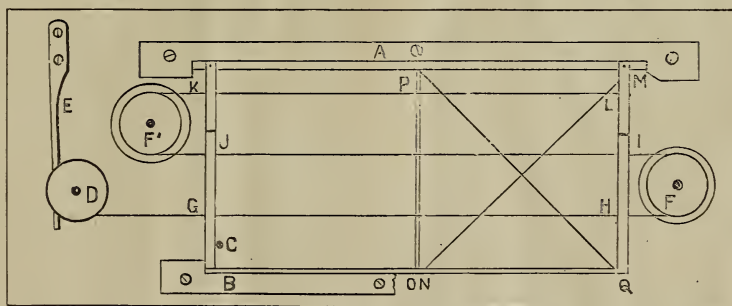
FRAME TOP-BARS.

WIRE, AND TIN BARS.

Friend Root:—On page 424, in your foot-notes to my article, you ask where I saw in the journals, three years ago, that top-bars $\frac{1}{8}$ inch square would prevent burr-combs. The word *three* in my article should have been *two*, as is evident from the next sentence. On page 758, Oct., 1888, you declare in favor of $\frac{1}{8}$ inch as the proper width of top-bars to prevent burr-combs; and add, that "extra thickness up and down will certainly help in the matter," referring, as evidence, to Mr. Hall's experience with top-bars over one inch thick. You did not give the width of his top-bars; but the inference was, that it was $\frac{1}{8}$. On page 669, 1889, and in other

the folded tin bar and the extra thickness." Good! but I must insist that, *when properly used*, the tin bar has no objection worth considering; but while it renders a thick top-bar unnecessary, it insures a still more perfect bee-space by holding the middle of both top and bottom bars exactly in line.

You say, "In order to keep from dropping out, the folded bar must be a little long." No, sir. It must be just right, and the top and bottom bars must be drawn tight against the ends of the tin bar by passing the wire through the bar between the folds of the tin, which is quickly and easily done. One serious objection I have to your frame is, there is nothing to prevent the bottom-bars from sagging. This, in time, causes trouble, especially when the frames are used in an upper story. Some of the unwired frames I have used from six to twelve years now have bottom-bars so bowed down in the middle that they almost rock on the lower frames. The combs seem to have a tendency to stretch and settle down after being built down to the bottom-bar. I imagine that the tension of horizontal wires on end-bars will aggravate this difficulty. I can't see why your bees ever avoid the tin bars. Mine never do. They build the ceiled honey and brood over them so perfectly that you could hardly tell that a *completed* comb has a tin bar in it. I coat the wire and tin bars with wax and rosin just before imbedding them in the foundation, and am careful to imbed the bar as well as the wire. This makes the thin foundation which I use adhere perfectly, and it is much cheaper and better than the heavier foundation with less wire. The accompanying sketch shows my present method of wiring. The cleats A and B are screwed to a board in such a position as to hold the frame, between them perfectly true every way. The pin C holds that corner in the notch in B. D is the spool of wire which turns on a pin which is inserted in the board. E is a wooden spring, bearing on the spool to keep it from turning too easily while the wire is being drawn off. FF' are pulleys, with flanges on their lower edges, around which the wire passes as it is being drawn through the holes in the end-bars. The end of the wire is first passed through at G, then at H, around F and through at I and J, around F' and through at K, and out at L. The wire is then fastened to



FOSTER'S METHOD OF WIRING FRAMES WITH TIN BARS.

places, friend Heddon is very positive in recommending $\frac{1}{8}$ as the width for all top-bars, including thick ones; but will you not both please pardon my hasty expression with reference to "the testimony and advice of those who claimed to know"?

I was, at the time, under a wrong impression, but this is not sufficient excuse for a remark which I now see looks like an unkind reflection; for I think you were both sincere. You say, "We do not disagree, unless it is in the use of

a small nail-head at G, and that from the spool is cut off. There should now be wire enough to finish the frame. Draw on the end that comes through at L while the loops are slipped off from F and F' and taken up. Now pass the end of the wire down through M, N, and O, and stretch it tight across over P. Now with the other hand place one end of the tin bar at O, and lay the wire in the groove in the bar between the folds of the tin. Now crowd the top end of the bar in place at P, just above the

groove in the top-bar, with the sharp edges of the tin up, having the wire pass out from the end of the bar through a hook formed by bending the point of a small wire nail which projects through the top-bar at this place, and which is afterward clinched down into the wood. Now bring the wire down between the ends of the bottom and end bars at Q, and fasten it to the nail there, which has not yet been driven quite in. Drive this nail in, break off the surplus end of wire, and you have a frame that can not possibly get out of true anywhere.

Mt. Vernon, Ia., May 20. OLIVER FOSTER.

[The foot-note to which you refer (page 758, October, 1888), was dictated by A. I. R., and he had in mind ordinary thin top-bars. But this was some six months before the discussion relative to thick top-bars came up; and I scarcely see yet how you could get the idea from the reference above that a top-bar $\frac{3}{4}$ inch square would prevent burr-combs. At any rate, a few months after, it was shown conclusively that extra *width* was necessary.—Oh no, friend Foster, I did not interpret your remark as an unkind reflection. I knew you too well to mind any thing of that kind; only I felt that *if* we had given you a wrong impression (on account of which you went to considerable expense), we ought to be warned so as not to make the same mistake again. Now about that tin bar. As you put it in covered with wax, it might not be objectionable; and perhaps we do not disagree at all, even including the tin bar. We never covered our tin bars with wax; but with our thick bars it is not necessary to use it; and with the Keeney method of wiring it is impossible for the bottom-bar to sag at all if the wires hold. So you see we are both aiming at the same object, but in a different way. Your method of wiring is very neat; and personally I should like it very much better than our old perpendicular plan. There are fewer holes through which to thread the wires, and the whole operation is much less trouble.] E. R.

HYBRIDS IN CALIFORNIA.

A CALIFORNIAN TELLS WHY NEW BEE-PAPERS DIE.

In May 1st GLEANINGS, Dr. Miller, in Stray Straws, says no new bee-paper had started that week; but he gives no account of how many had passed away. The fact is, they *must* pass away or the market would be glutted. I think I can throw some light on their downfall, that has never been even suspected. No sooner does a new bee-paper get well upon its legs—able to stand alone—than the infatuated and misguided editor writes to me and solicits a contribution. Everybody knows that I am good-natured—even to a fault. Then I put on my harness and give him one of my best—a real hardy, deep-rooted one that I have saved up for the Fourth of July, or some other festive occasion. Then the paper takes the spring dwindling. It dwindles on and on, until it dwindles into nothing. All my herculean efforts to save it are of no avail. I may throw into it enough intellect to save a dying dictionary—one that has outlived its day—but it all avails nothing. The more and the faster I write for it, the faster it fades away. Can Dr. M. or "any other man" explain this? I am really getting out of heart.

HYBRID BEES IN CALIFORNIA.

Away back in the 70's the Italian bee was introduced into San Diego County. At that time

there was no other bee known here than the black. To the bee-keeper of that day it was *the* bee and the only bee in the world. Why! it would have made his head swim to hear you talk of Italians, Cyprians, Syrians, albinos, Carniolans, etc. He would have thought you were going crazy, or that you had been there all the time. But a change came o'er the spirit of their dream, and the Italian burst upon their enraptured vision like the first rays of the morning sun. Fabulous prices were paid for queens too—twenty, thirty, forty, and as high as fifty dollars. But, what of that? These Italians could jerk out and pile up the honey *every* year. Their honey-sucker was long—was like a rubber tube, only more so, and they could stretch it out to any length needed, to get the honey from *all* the flowers! Nearly all the long, deep, bell-shaped flowers grow along the water-courses, and many of them bloom nearly all the year round. The blacks could not reach the nectar. But the Italian, with his long rubber tube, could just muzzle all the honey in creation. There was money in it—loads of it. Why not? Couldn't the Italian gather honey all the year round? Wouldn't the whole year be one unvaried honey season? These stories, and many others more ridiculous still, were the tales that were sent out among the bee-keepers of that day, and they lost nothing on their journey. The further they traveled, the wilder they became. Was it any wonder they paid fabulous prices for queens? At that time little was known by the average bee-keeper in regard to Italianizing an apiary. To bring the precious lady home and turn her into a queenless colony was about all they knew. They were under the hallucination that they were producing honey, but they were really raising drones. Their hives were half full of drone comb, many of them more than half full. What would *one* Italian queen do, put in among five hundred such hives, and that without care, and without any attempt to control the hybrid drones? The few pure Italian drones *she* produced were like lost sheep in the wilderness. But she did something still; for the consequence was, in the end, the whole country was hybridized. All the wild bees in the mountains are hybrids. In fact, it is hard to find any black bees, or any pure Italians, for that matter, in San Diego County. These bees extend far up into the north; but bee-keepers there have now many pure Italian yards. It is held, I believe, by most bee-keepers east, that the hybrid (except the first generation) is a very successful failure as a first-class honey-gatherer. This may be true there; but the hybrids on this coast are a very extensive and remarkable exception to the rule. You fellows in the East talk of your four and five banded Italians—talk of them and blow about them as if *bands* were any thing to be proud of. Why! bands are just the everyday clothes of our hybrid bees. They wear three, four, and five bands, just as they can snatch them up, as they are hatched out. The fellow that has five bands is not proud at all—not too proud to associate with the poor creature that has only three. He would even associate with an Italian, if the Italian had the good fortune to belong to his own home. But he recognizes the fact that his comrade in arms was in such a hurry to gather honey that he did not take time to put on all his clothes! He knows, too, that it is not *bands* that gather honey, as some bee-keepers would have you believe. He knows that it is grit, vim, diligence, and perseverance.

Now, the first generation of these bees, so far as I can learn from many bee-keepers of that day, was no better and no worse as honey-gatherers than the ten thousandth generation

is to-day. Here is a race of hybrids, then, of twenty years' standing, that have neither gone back to the Italian nor the black bee. More than that, when they "get down to scratch gravel" they can pile up as much honey as any bee that was ever hatched. They were not originated by "long years of careful selection," nor by "lying awake nights," but by neglect and mismanagement. J. P. ISRAEL.

Sumac, Cal., May 23.

[After friend Israel's candid confession in the first paragraph to the above, it became somewhat of a question as to whether we had better use his article or not. We have, however, decided to take the chances; and if GLEANINGS should get the spring dwindling in consequence, we will try to nurse it through till summer time. Friend I. I am inclined to think you have given us some important facts as well as some bright glimpses, from that rare gift of yours in the way of pleasantry. Go ahead. I do not believe it is *altogether* owing to your contributions that so many bee-papers have had the "dwindles."]

FRIEND TERRY'S STRAWBERRIES AT THE PRESENT TIME.

THE MAY FROSTS IN HIS LOCALITY, ETC.

Friend Root:—You may remember that, when you were here about a year ago, asking me why I did not put out five or ten acres of strawberries, and get rich. I did not make much reply; but in your report in GLEANINGS you told what you thought passed through my mind about spoiling the privacy of my home, etc., all of which was almost word for word what I *did* think. I was surprised that you could read my thoughts so perfectly. But there was one thought that you did not get hold of at all, that flashed through my head. It was this: This is not a safe locality for growing strawberries largely. One could make a great deal of money from five acres, perfectly tended to, of fine large berries, put into Cleveland when just right for eating, and only two or three hours from the vines, if the late spring frosts did not interfere. Last year they did not, and our success was all we could ask for. This year our half-acre went into winter in perfect shape. No pains were spared to give every plant the best chance possible. We mulched them heavily to keep them back; but, alas! the freeze of May 16th killed all the blossoms and many of the buds, and most of the leaves, and many of the plants themselves. The earth froze here from one to two inches deep. I actually dug up pieces of frozen soil in the morning, two inches thick. The Bubachs and Haverlands are just about ruined; all suffered severely, but, as usual, the Sterling stood the frost best. They are altogether the safest berry for our farm. I suppose in that one night we lost \$200 worth of berries. The frosts early in May hurt us little, as our berries were mulched so heavily they had not started much. This loss does not trouble us, because we expected it sooner or later. We are liable to killing frosts until June, and even then feel a little unsafe until a week has passed. We were growing that half-acre of strawberries largely for the pleasure of doing our best on a little land, and not as a source of income. Now, do you not see that, if we had made a business of it, and had five or ten acres, we should have been hurt badly? I know these conditions to exist here, and have no right to put out a crop that it would cripple me to lose, and then blame Providence for bad luck. All these points have been studied most carefully. Our

crops of potatoes, wheat, and clover, are almost perfectly safe. They have never failed to pay us. I could make more money from strawberries, if they were as safe; but they are not, here. There are places where they are. Within a mile is a hill of rich, mellow, moist soil on which I would not hesitate to put out strawberries largely. As it is, one does not like to work hard for nothing half the time, and we shall set out only plenty of strawberries for our own use in the future. We decided on this before the frost, knowing well the chances, and set out this year only what should bring us, say, 20 bushels in a good year. We will do our best to succeed in what we undertake; and then, if failure comes, it will be no fault of ours. Special farming is not very popular, but we will grow what nature has best fitted our farm for. We want safety and almost certainty with as little of luck and lottery as possible.

Now, this is the idea that went through my mind, friend Root, when you asked me why I did not put in many acres of strawberries. I wish I had brought it out more fully in our little strawberry-book. Being rather set up by success then, I hardly made as plain as I should this point of going against nature. But still that book was intended mostly for farmers, who raise berries only for their own use, and this I would do in any locality; however unfavorable. By setting out the varieties that stand frost best, and by heavy mulching, and, best of all, by setting out a great plenty, berries may be almost a certainty; and if not particularly profitable some years, it will not matter on a small patch.

Like yourself, friend Root, the writer must have something to work over between times. Desiring to get something less risky than berry-growing, it is a barrel of Freeman potatoes this year, which we planted by hand and cut so fine as to spread them over $1\frac{3}{4}$ acres. I am just spreading myself to see how many I can grow from that barrel.

When I get to writing you I don't know when to stop. There are many things on my mind. For one, your recent reference in GLEANINGS to corporations having souls, and to the use of fertilizers, calls to mind this incident: The great fertilizer firm of W. S. Powell & Co., of Baltimore, asked me some time since to write an article on wheat culture for them, to be published in their pamphlet, sent out as an advertisement of fertilizers. I replied that I could not conscientiously say any thing in favor of fertilizers. I know they pay sometimes; but I believe on the whole, in our locality, they have not paid our farmers. Their answer was, "We do not care a snap whether you recommend fertilizers or not. If you can give us something on wheat culture that will be a benefit to our farmer readers, we want it." It seems to me that such a reply as that from a great fertilizer firm is worthy to go on record. Some corporations have souls. In fact, I believe they usually do about as we outsiders would if placed in their position. Take the great W. P. Southworth corporation, of Cleveland, where we do our trading in the grocery line. I think they sell their goods for exactly what they are. If you want adulteration you can buy it. For example, strictly pure Arabian Mocha coffee is 35 cents a pound, or was when I was in there one day; extra Rio, strictly pure, 28; choice Rio, 86 per cent coffee and 14 per cent English chicory, 25 cents; Rio, 65 per cent coffee, 25 per cent English chicory, and 10 per cent roasted peas, 20 cents, and so on. Granulated sugar they sell in lots of 25 lbs. or over, at only $\frac{1}{4}$ of a cent a pound above wholesale barrel price. There is certainly soul in that corporation. These corporations and trusts do wrong sometimes, like

the rest of us; but they also do lots of good by greatly reducing the cost of doing business, and hence the price to us. T. B. TERRY.

Hudson, Ohio, June 4.

[Friend T., I am exceedingly glad to get this report from you. Of course, I am not glad that you have suffered this loss, but it will call the attention of strawberry-growers to this very important point. I believe our locality is much more favored than yours in the matter of freedom from frosts. Our Michel's Early were almost all killed; but, strange to say, our Haverlands, both on the hill and the low ground, were almost unharmed. Three-fourths of all our berries this year will be from the Haverlands. As our berries are still blooming, the bloom being kept back by the cool weather, we anticipate a later crop of berries than we have ever had before. The first ripe berries that we found, June 5, were Haverlands. This is a full week later than we usually begin to get ripe berries.—I, too, feel a great deal interested in what you are going to get from that barrel of potatoes. I am glad you are interested in the things in GLEANINGS, and now please do not stop when you feel as if you had something to say to us all.—Your suggestions in the way of more charity toward large firms and corporations, I feel are providential just now. I do not believe in letting up on fraud—not one iota; but let us not fall into the error of thinking that it is only the *moneyed* men who are wicked. In all my business experience I have met continually just such facts as the one you give. Sometimes I am called upon to give my evidence, or testimonial, for certain goods or commodities. When I suggest that my experience would not be of benefit to them, their answer is, almost invariably, "Never mind; let it come. Your testimony is the very kind we want. If there are still difficulties to be met and overcome, let us face them. Never hesitate about bringing out the truth." Now, dear friends, the above is certainly the attitude and spirit of many of our great institutions; and therefore, like the wise man mentioned in the scriptures, they desire to build on a solid foundation. I have been quite well acquainted with the firm of W. P. Southworth & Co. for 25 or 30 years; and the universal verdict seems to be that their great business has been built up year by year by absolute honesty and truthfulness in every thing they buy or sell.]

GIANT WATER-BUGS.

SOME MORE WONDERFUL THINGS FROM PROF. COOK.

Prof. A. J. Cook:—Inclosed you will find an insect of some species that lives in water, of which I should like to know the name and its character. The way I came to see it was simply this: I have a dam wherein I keep carp, and I was sitting there one day and saw this insect struggling with a carp about 3 inches long. I tried to get it, and at last succeeded in getting both the insect and carp; but the carp was dead after I got both. Then I took the bug home and kept it three days in water, alive.

Layfield, Pa., May 20.

I. R. ERB.

[Prof. Cook replies:]

The large bug that is playing the part of a freebooter in Mr. I. R. Erb's carp-pond is no stranger to me. It is one of our largest American insects. Its color varies from dark to yellowish gray, and its size varies from $1\frac{1}{4}$ inches in length to $2\frac{1}{2}$. The one sent by Mr. E. is a little more than 2 inches long, and $\frac{3}{4}$ of an inch broad. I have them in our collection that are

over $2\frac{1}{2}$ inches long, and more than one inch broad. Some visitors, a few days since, asked what the monstrous insects are that are so frequently caught under electric lights. "Why," he says, "we catch them which are as large as my hand."

I laughed, and spoke of the boy who saw a thousand dogs, which proved to be "old Bosc and another dog." I showed him a case of these great water-bugs, and he said at once, "They are the fellows." These live in the water all their life, and come forth only to mate, which they do in the night. Then they are attracted by lights, and so are found, often in considerable numbers, dead under the brilliant electric lights of our cities and towns. They are as rapacious as they are big; and woe betide the fish or insect that comes within reach of their strong piercing beak. They, like all true bugs, have a strong formidable sucking-tube with which they suck the blood and life from their victims. If very numerous, they would be serious pests in a fish-pond.

Ag'l College, Mich., May 25.

A. J. COOK.

[Look here, friend C. Do you mean to say that this great bug $2\frac{1}{2}$ inches long, that lives in water all his life, not only comes out on dry land to mate, but that it *flies* through the air? How else could bugs of that kind be under the electric lights? I have heard of flying fish, but I did not suppose that we had any thing in that line right here in our own land. If so, there are more "books in running brooks" than I ever knew of before. I confess I should greatly like to see an insect that lives in the water, and yet comes out and flies in the air. Another thing: Is it really true that an insect $2\frac{1}{2}$ inches long would undertake to eat a carp $3\frac{1}{2}$ inches long? or did the carp try to swallow the insect? It seems to me that you and friend Erb are telling marvelous stories, or else I am a good deal behind the times in the "bug business."]

DR. MILLER'S HOME-MADE BINDER.

AN EMPTY COMB OR DIVISION-BOARD — WHICH GIVES MORE PROTECTION?

"Now you must send a description of that to GLEANINGS."

"Oh, no! enough book-binders have been described already."

"Yes; but the others are all intended for binding at the end of the year, and you know how much more convenient this is."

I was obliged to admit the point, so here comes the description. I don't know how many ways of binding I have used, some of them very satisfactory, but they all contemplated leaving the pamphlets to be bound when the volume was completed; and before that time, too, often some of the numbers were mislaid, and then there was a big time hunting up and arranging. I tried the self-binders—got one for GLEANINGS and one for the *American Bee Journal*. I used them less than six months, and they are for sale cheap.

The beauty of the arrangement I now use is, that each bee-journal or magazine of any kind can be bound as soon as received, with the previous numbers of the year; or you can do as I do—throw them into a drawer, and bind once a month or so. Indeed, two of the journals I get are not sewed together in any way, and one of them not even cut, in which case it is very handy to bind them before I cut the leaves, for it is about as handy to bind them as it is to hunt up a needle and thread and stitch them together.

I'll tell you how to make the binder. Of common $\frac{3}{8}$ pine stuff, cut one piece 16 x 8, another 12 x 5, another $15\frac{1}{4}$ x 1, and another 8 x 1. That's all the stuff. By looking at the cut you'll see how to put the pieces together. Nail



DR. MILLER'S BINDER.

the 8 x 1 piece on the end of the big board; nail the other stick on one side of the board (be sure to get it on the same side as it is in the cut), and you will thus have a kind of little box closed on two sides, and only one inch deep. Now you are to make four holes in the other board, and that's the most particular part of the job. Make these holes $\frac{1}{8}$ of an inch from the edge, the first one 2 inches from the end, then $1\frac{1}{4}$ to the next, then 2 inches to the next, and $1\frac{1}{4}$ to the last. It is of first importance that there be no slant to these holes, so take a try-square and make a mark clear round the edge of the board, where each hole is to be—that is, on the three sides, so the mark on one side will be exactly opposite the mark on the other. Draw a line on each side, $\frac{5}{8}$ from the edge. With a very small bit bore a hole half way through on one side, and then bore clear through on the other side, thus making sure that each hole shall come out at the right place. If you haven't a bit to suit you, you can drive a nail in at each side to make the holes. Now get a pair of long shoe-strings for each book you have to bind. Put the bee-journals on the big board, *right side up*, taking pains, as each one is laid on, to push the corner of the book close up in the angle; lay on this the smaller board, crowding its corner tight up in the angle, and through each nail-hole drive a two-inch No. 13 wire nail. Draw the nails with a claw-hammer. Push one end of a shoe-string through the hole nearest the top, making it go in from the same side the nail entered, and from the same side push through the other end of the same string. The two ends of the string can now be tied together, and another string must be put through the other two holes. From five to ten journals can be put on the board at the same time, and it doesn't matter if they are all of different kinds. The expense for shoe-strings is very little. You can get them more than three feet long for a cent or two a pair. When the year is up, tie your strings together in a hard knot, cut them off, and then you can tie the cut ends together and use them over again.

HOW MUCH DIFFERENCE DOES A DIVISION-BOARD MAKE IN THE HEAT OF A HIVE?

Eight pages of the *Revue Internationale* are taken up with a report of a series of experiments made by Prof. Gaston Bonnier, of Paris. So important did this report appear in the eyes of that journal, that, on account of a misplace-

ment of paragraphs, the whole eight pages were reprinted in a supplement the next issue.

Prof. Bonnier gives quite full details of his experiments, guarding carefully against error, in such a way that little room is left to doubt the correctness of his conclusions. He first experimented on two strong colonies placed in winter quarters after they had ceased to fly, Oct. 9. They were in 22-frame Layens hives, the colony occupying nine spaces at one end of the hive, and confined to that end by means of a partition of wire cloth. Outside of the wire cloth was placed alternately a division-board and a frame filled with empty comb. Between the wire cloth and the division-board or comb was a thermometer, and the temperature was carefully recorded as the changes were made, a record also being kept of the outside atmosphere, which gradually arose, as the day warmed up, from 30° F. on one day at 6 A. M. to 54° at 10:30. Now, how much warmer do you suppose he found the division-board than the empty comb? Why, not a whit! Then he tried alternately one comb and then five combs. He found one comb just as good as five. But error might arise from the bees generating more heat at one time than another. It might also be better to have a constant temperature outside the hive. So he substituted, for the colony of bees in the hive, a stove, and placed the stove in a room whose temperature remained steadily at 27°. Again he found no difference between the division-board and the comb. The results were a surprise to himself. He says: "I believed there existed an appreciable difference in favor of the division-board. It appears there is none." In trying to account for such unexpected results, he says that wax is a poorer conductor of heat than wood; and of all bodies, according to Tyndall's experiments, the one allowing the least radiation of heat. This stands as an offset to the advantage that the division-board has in not allowing the air to pass by at each end.

Now, here's something for Prof. Cook and Mr. Larrabee to refute or confirm. If division-boards are of no value, it is well to know it. It occurs to me that a variation might be made in this way: In a room of uniformly low temperature, place a hive with a heater kept at a uniform temperature in the *center* of the hive, a comb on one side of the heater, and a division-board on the other. Now place a thermometer, one in each end of the hive, and compare. In any case this much good may come—that, instead of the wooden division-board, we can use a frame of comb with something fastened on each end-bar to make it as tight-fitting as the wooden board. If, however, we use closed-end frames, then the problem assumes a different shape.

Marengo, Ill.

C. C. MILLER.

IS HE A JOKER?

SOME FISH-STORIES.

I bought me a colony of bees last November, with one of Alley's queens in it, and transferred them and kept them through the winter in fine condition in a Simplicity hive. It is true, I took them into the house and set them by my bed during the coldest weather; but I did not keep them there until they knew me well enough to meet me on the road and look me in the eyes, and buzz in my ears.

I have learned to write a little for GLEANINGS, but can not get any one to believe *every* thing I write. I had Bro. Root on top of the fence in regard to that wheat "mill;" but E. France has got him leaning on the other side

now. You men up there in the North do not seem to have much confidence in your fellow-man. I am inclined to believe *every thing* I hear. I will make one more statement and try to prove my former ones; and if I do not get some evidence on my side, then I am done.

Friend Root, do you know that our common house-martins that make their appearance every spring, when they leave in the fall and go to their winter quarters settle on a kind of rush (just like a swarm of bees on a limb), until the rush bends down and lets them sink into the water and there they stay all winter in a dormant condition? Of course, you do not believe it, as you did not readily believe the story of the little snakes running into their mother's mouth. You seem to think nothing can live any length of time in and out of the water. Now as to the evidence: 1. I will refer you with this bird tale to A. J. Cook; 2. If there are any snapping-turtles in your little creek at Medina, take one out and keep it 24 hours, and then tickle it on the nose with your finger, and report results.

A. B. Baird's bees can puncture grapes and hull wheat. Take one dozen bunches of good ripe and sound Concord grapes, and mash up half the bunches, and set them all together before your bees, and watch the result. Let the truth come, Bro. Root.

Yes, A. B. Baird's bees can bite. I bought me a Gray's covered feeder of A. I. Root, and the saw had left a stringy substance in the entrance uncut, which the bees bit out in a short time. They also bit one of my hives in the entrance until it was larger. E. France will say "mice" again. Well, friend F., if bees will suck chilled brood as dry as chips, why can they not suck a chicken as dry as a chip also?

J. D. WHITTENBURG.

Marshfield, Mo., May 9.

[We will not attempt to dispute your statements, because—you are a better joker than the rest of us. Say, do those martins stay in the water dormant for ever?] E. R.

[I am well aware that bees can bite sufficiently to enlarge the entrance to their hives, as they do sometimes where they are made carelessly too small. I have also seen robbers work at a crack until they cut away wood enough so they could manage to squeeze through it; and I have been for years pretty well satisfied that bees do, at least occasionally, manage to get into certain kinds of grapes. Perhaps they push in between the skin and stem, and thus get an opening. I believe, however, this does not often happen; and it is usually confined to the sweetest varieties of grapes, such as are grown in California, together with the Delawares and some other varieties grown here.]

A. I. R.

EXTRACTING-CASES.

SHALLOW EXTRACTING-FRAMES VS. THE FULL-DEPTH L. FRAME; THE BEE-ESCAPE NOT A SUCCESS.

I am free to say that I can't understand why so many large producers of extracted honey still use full-sized Langstroth supers. When I remember what time it has taken to lift out frame by frame, shake them and brush off the bees, etc., what difficulty I had when the honey-flow suddenly ceased, and robbers were troublesome, I can hardly think now of getting along with my increased number of colonies without shallow supers.

The main advantage of shallow supers is,

that I take off the whole super at once, and do this nearly as quick as anybody can take out a single frame. For two men it takes hardly an hour in the morning to wheel all the supers into the honey-house. We can extract during the day, and in half an hour they are set back on the hive in the evening. With the full-story supers one man had to work all day in the apiary, and had not much time to take a rest if the other fellow at the extractor were to be kept busy. We now do all the outside work in the cool morning and evening. Surely he who still uses a full-story super has never tried a shallow one.

It seems that the idea is prevailing, that, with shallow supers, the honey must remain on the hive till the honey-flow is over. I do not do so, but extract the most of the honey during the honey-flow. I storry the supers in so far that the extracted combs are set just over the honey-board (mostly queen-excluding), and the super on top is taken off only for extracting. If we use three supers for every strong colony, we take off capped honey from top, and all the uncapped honey remains in the hive till we come along again to the same hive. All the time the bees have plenty of empty combs, and we can extract as quickly as the bees bring in the honey. All this is impossible with a two-story Langstroth hive. Here you must extract capped and uncapped, thick and thin honey, because both kinds are in the same frame, and nevertheless the bees have sometimes not empty cells enough. By the shallow-super system we have no danger from swarms, and do not have to fuss with taking out queens, etc., *a la* France.

In getting the bees out of the supers we use Heddon's plan, smoking them down. If the honey is capped we have no difficulty in doing it, and I can easily take off as many supers as the assistant can wheel into the honey-house, but if the case contains uncapped honey, or, still worse, some brood, the bees will not readily leave the super; and that is one of the reasons I want a queen-excluding honey-board. The few bees remaining in the supers will escape from the honey-house. I tried the shaking-out plan, but it made little difference in the number of bees remaining in the super.

Bee-escapes did not work with me. Sometimes the bees are very slow in leaving a super; but even if the escapes would work all right all the time, I would not use them; it is too much work for me to handle the supers so often. When I lift off a super to slip the escape under it, I can just as well set it on a wheelbarrow and save a second lifting.

You will say in your foot-note to this article, "That's old." I know it is; but what I wish to know is, why do you in your price list recommend a two-story hive for extracting? Why do you not add 5 $\frac{3}{4}$ -inch-high frames and corresponding cases to your Dovetailed hive? In 1889, page 190, you say, "Our dovetailed supers can be used for the half-depth bodies if desired." But you never offered frames for this purpose. By the way, I think these supers would be too shallow. I use frames 5 $\frac{3}{4}$ inches high, because this size is just right for my 11-inch extractor, and the supers can be made of six-inch lumber, without waste. It is not too deep to smoke out the bees, and a shallow frame would cost more for the same comb surface. I have used these cases for five years with common hanging frames; but I think now they can be improved by using closed-end frames.

Here let me add a few words in regard to closed-end frames. The hives I got from you this winter contain swarms now, and some of my old frames I have changed to closed-end frames. As yet, I am very well pleased with

the handling of these frames. If, by and by, the frames are not too much glued to the walls of the hive, this style of frame will have many advantages over the hanging or swinging frame. I confess I was prejudiced against these frames. I am experimenting now with some other frames and hives, and can't tell as yet which kind I shall prefer; but I am sure, with out-apiarles, I must have fixed frames.

L. STACHELHAUSEN.

Selma, Texas, May, 1891.

[Thanks for your valuable suggestions. Your ideas will dovetail very nicely with those of Mr. Heddon in regard to his shallow closed-end frames. The Dadants use half-story extracting-supers, and their frame is six inches deep.]

E. R. R.

LADIES' CONVERSAZIONE.

SEATS FOR BEE-KEEPERS.

SEATS FOR EVERYBODY WHEN TIRED OUT, OR IN A STATE OF FEEBLE HEALTH.

Mr. Root:—When you spoke of seats in the apiary and in our workrooms, you touched upon a secret of success which, if followed out by all, especially women, would make this nation a happier and much more thrifty people. A half, or, at least, a third of our women, complain they can't do their housework without great weariness; and many are obliged to hire help who otherwise would not, if they would just act upon that little hint of yours of sitting down to talk, or sitting down to do such work as could be as easily done sitting down as in standing up, and then we could keep rested. No one should keep on his feet until trembling and tired, but keep within his strength, and then his strength would increase; but if worked to exhaustion, it sooner or later brings on weakness and disease. If sitting down does not give complete rest, then lie down each day, more or less. We make better wives and mothers if not overworked. The mind is much clearer, and the nerves steadier; the sharp answer is not half so apt to be spoken, and we speak louder, so we do not so often have to be asked over what we say; and if asked over, we are not so apt to give an impatient sound to our voices, but more gentle and sweet. If mothers and wives can keep sweet-tempered, it tells upon the whole household; for children are very apt to act and speak as mother acts, and husband to answer back as spoken to, and the help to be cross and disobliging. Even the little infant is sometimes thought to be cross and fretful, when it is the mother who is much to blame, for mother is too tired. Oh if we could realize each day that it is not all of life to live—that each day we are building for eternity, and our building is the lives with whom we come in contact, how much more careful would we be to be right, as it is more what we are than what we do that tells for God! We must have Jesus in our lives as the ruling principle.

PLANT HONEY-BEARING TREES.

Some 12 or 15 years ago Mr. Axtell and myself thought strongly of planting out a basswood grove for our bees; but one day, while reading in a bee-journal, one writer said it would not pay the person who put out such a grove, as he would never live to see his bees gather honey from the grove he would set out. The consequence was, we dropped the idea and did not set them out, as it was not so convenient to obtain such trees. We now wish we had such a grove, and I think it would pay us, though

basswood-blossoms are seldom rich with honey in this locality; but we might as well set out honey-bearing trees as those that produce no honey, as some years they might yield honey, if other years they did not. Our advice would be, to plant honey-producing trees.

GLOVES.

Bees sting my hands worse with cotton gloves than if bare-handed. The soft springy nature of a cotton glove always seemed to me to anger them; and old kids that have been worn for some time, I think have a smell the bees do not like, and they sting worse with than without them. Once, a good many years ago, I got tired of the stings, and thought to try buckskin gloves; but so many bees left their stings in the gloves, I pitied the bees as it killed so many. I pulled the gloves off, and have never worn buckskin since. I never use any covering to my hands unless it be a cotton cloth wrapped low down over my wrist, down over the backs of the hands, as far as possible, and of a thickness that the stings can't reach through. The stings which the bees thrust in as they try to crawl under such a cloth are always the worst to be borne, as we can't pull them out so quickly.

Roseville, Ill., May 15.

Mrs. L. C. AXTELL.

[My good friend Mrs. A., it almost startles me sometimes to see how exactly your experience coincides with my own, and to find that you have passed through the same sort of trials that I have. It is not only better "wives and mothers" when they are not overworked, but I am inclined to think that fathers might be improved quite a little, if they would take the trouble to sit down when exhausted, so as to recuperate their strength. There is a whole sermon, and a practical one, in your remarks about taking care of our bodily health and strength, so that we are better prepared to exercise the virtue of patience. But there is another side to this matter of seats, and one that I rather dislike to speak of, but perhaps it might be well to recognize it here. We sometimes meet with lazy people who insist on sitting down and shirking responsibility when they are *not* tired. Providing seats for such would be only ministering to their laziness. A little careful observation, however, with Christian love in our hearts, will readily enable us to judge pretty accurately. I become thoroughly tired out almost every day; but somehow I have the faculty of resting quickly. Sometimes sitting down for only five minutes, and occupying myself with some work that can be done in a sitting position, rests me so that I am ready to climb stairs again, and hurry from one room to another, and enjoy it too. Now, then, let us all remember that we can do Christ's work by furnishing or suggesting, or *providing* seats for those we love, and we *ought* to love everybody around us.]

A. I. R.

THE BEES AT DR. MILLER'S.

AN INTERESTING REPORT.

Our bees are in splendid condition, and nearly all our colonies are ready for the harvest, which we expect to begin in about a week, there being some clover in bloom now, May 26. Only one colony in the Wilson apiary of 92 colonies has less than five frames of brood, and most of them have from 6 to 8 frames.

I want to tell you a little about how we have strengthened them. Some of our colonies were very strong early in the season; in fact, they were all in good condition, no sign of spring

dwindling. When the queen was crowded for room to lay in these strong colonies (they usually had from 6 to 8 frames of brood before she was crowded much), we went to each of them, first found the queen, placed the frame with her on in an empty hive, then took one or two frames of brood with adhering bees, generally taking only one frame, unless very much crowded, giving them empty combs in place of those taken, returned the frame with the queen, when they were all right for about a week, when we had to take from them again.

When colonies have only two or three frames of brood they build up very slowly, often seeming to stand perfectly still. When they have only a little patch of brood in one or two frames, as a general rule they may as well be broken up, for they do not pay for the time you spend on them. It took me a good while to learn this; and how I used to beg that they might be turned over to me! Now I experience quite a feeling of relief when they are disposed of. Mrs. Harrison expressed my sentiments exactly when she found that the bees of her weakling had "betaken themselves to pastures new."

The best colonies to build up are those having five frames of brood; but the trouble is, you will be obliged to take from them so soon that it makes a great deal of work; and if left entirely alone they will be all right in time for the harvest. We wished to avoid all extra work, so we decided to begin with those having brood in three frames. Going to the first colony that had only three brood, we removed all the combs until we came to the brood, and gave it four frames of brood with adhering bees. After we had strengthened all the colonies that had only three brood, we filled up those having only four.

We have never experienced any difficulty in uniting bees in the way I have mentioned, and in no case has the queen been harmed by it. We have always taken the precaution, however, never to put two frames, taken from the same hive, together. If they were put in the same hive, we always placed a frame taken from another colony between them. Sometimes, if it was difficult to find the queen, the frame of brood was taken without the adhering bees, in which case it was given to a colony having four or five brood, so that it should be well cared for.

Mrs. Harrison, I should like to know in what condition your combs are when you want to use them, that you set in your cellar to wait for that swarm. I very much fear that, if they were left in our cellar until swarming time, we should find them pretty well riddled with worms, besides being somewhat musty. I wonder whether the difference is in the cellars, or does swarming time come earlier at Peoria?

Just as soon as we can, after our bees are out of the cellar, we see that our extra combs are all given to the bees to take care of. An extra story is filled with these combs, and placed under one of the strongest colonies. The bees clean them up nicely, and they are soft and sweet when we want to use them.

Marengo, Ill.

EMMA WILSON.

[My good friend Emma, I have been through the same kind of experience; and after having practiced it two or three years, it became quite questionable to me whether robbing Peter to pay Paul was just the thing or not. There is one thing certain, however: We can, by this means, often save valuable queens that would surely be lost otherwise; and we think it always pays us, without question, to watch carefully, that neither our imported queens nor our select tested are suffered to die. Years ago somebody suggested that the queens that let their colonies

down to a teacupful did not amount to much any way. But I know this is not true; for queens rescued from these little remnants often prove to be equal to any in the apiary.]

THE USES OF AN UMBRELLA AMONG THE BEES.

HOW TO HIVE A SWARM WITH IT.

Mrs. Harrison's umbrella on a staff is a good thing to use if it is not too windy; but an umbrella to catch up and carry around with me whenever my hands are at liberty, is one of my greatest comforts. On extremely hot days we always have them handy, and I often make use of them in swarming time to hive bees. Our queens are all clipped, but the swarms will sometimes cluster; and although I know they will return in time, I don't wait long, but take a few from the cluster and start them in. As our trees are mostly small, they can usually be reached from the ground, or with a step-ladder. I often turn my umbrella upside down, and shake part of the cluster in it, and take them to the hive where the queen is.

One day last summer a swarm came out just as a shower was coming up; and instead of returning to find their queen they clustered closely on a small apple-tree. The rain came immediately; it was cool, and the bees were being washed off on the ground. I thought they should go home, but they could not fly. They had no umbrella, so I loaned them mine. I shook them into it, and, taking it to the hive, I poured out what I could, and turned the umbrella down on the hive and left them to go in at their leisure, which they did, and I presume were much obliged, for they made no more trouble, and were one of my best colonies that season.

THE RECORD-BOOK A GREAT CONVENIENCE.

Another great help is the record-book. It saves much opening of hives, and from it much of the work can be planned in the house. I aim to know, as nearly as possible, the exact condition of each colony during the working season. I shall be glad to have suggestions for simplifying this record, especially in numbering, as I start out this season with a new book, and a new hundred in numbers. I have been in the habit of giving the new number to the prime swarm; but as the old hive is moved to a new location, it changes the number of location and queen. Now, it seems to me the old hive, with its young bees, young queen, and new location, should be the new colony. To be sure, you would have to change the number on the old hive; but that should never be affixed permanently, as we are apt to change them about for one reason or another, and that would be easier than to remember that this stand and queen used to be No. 40 and now is No. 80. How do you do it, any way?

S. M. STOW.

South Evanston, Ill., May 27.

[Dr. Miller or Miss Wilson can doubtless tell a good deal about record-books. Dr. M. has a peculiar system, and a code of shorthand of his own. He explained the whole to me while at Marengo last fall. Perhaps he or his assistant will tell us about it. Say (Mrs.) S.—excuse me if I put you in the wrong department—you have originated a new and useful function for the umbrella. Why don't you patent it—not the umbrella but the function? Joking aside, the umbrella might answer excellently for catching a cluster of bees just shaken off a limb.]

E. R.

TO MAKE HONEY CANDY.

J. B. Weber wishes to make honey candy. If put into dishes which have contained candied honey the process will be hastened.

HATS, GLOVES, AND VEILS.

For gloves I like a stocking-leg with thumb and hand covered with denim. The fingers are free, the hands do not tan, and the bees can not sting through them. They do not offer to sting the ends of the fingers.

To make the hat-brim broader without the inconvenience of a broad straw brim, take straw-colored paper and cut it in strips about two inches wide. Plait, and baste around the brim. I could hardly do without it. Three-quarters of a yard of mosquito-netting, with brussels net for the face, a rubber at the top to fit the hat-crown, and a string at the bottom to fasten about the neck, makes a good and cheap veil.

SEALING HONEY.

Why do not my bees seal honey promptly? They were gathering honey, though slowly. They were strong enough to swarm. We examined honey again and again, each time deciding that it must be left a little longer to complete the sealing. At last it was browned.

GARDENING.

I am very glad that the ladies have a department in GLEANINGS. I very much wish that they would respond to Mr. Root's request that they tell us how they enjoy stirring the mellow soil, and watching the plants grow. I find the soil heavy and hard to work. If I would see the plants grow, I must wage an unceasing war against weeds, insects, droughts, and frost. We had quite a hard freeze last night, and have been hard at work to-night covering plants with straw and paper. We think Paris green the best remedy for the striped cucumber-bug. Last year our first tomatoes brought eight cents a pound. I should like to know whether any of the ladies can dress so as to do real work in the garden, and yet be presentable when callers arrive.

You mention a book on tomatoes as being the only one. I will send you a copy of one written by F. F. Smith, then of Aurora. He is now raising roses. His greenhouses are at the corner of 67th St. and R. L. R. R., Chicago, near the Cook Co. Normal. I think this book a good one. My favorite tomatoes are Ignatum for early, and Livingston's beauty. **LIEBIE WILLIAMS.**
Delavan, Wis., May 26.

[Yes, my good friend, it is emphatically true in gardening, that "there is no excellence without great labor." This matter of dress for gardeners, both men and women, is one that interests me. When I get right down to business with the plants, not only my boots but my clothing generally looks quite unrepresentable. People will come along and ask me all sorts of questions about A. I. Root. Sometimes they venture the remark that he must be a queer sort of genius, until I begin to think I can not longer conscientiously avoid telling them that I am the very chap himself. I am exceedingly obliged to you for the tomato-book, for it plainly indicates that friend Smith is a real live gardener, and loves to make things grow.]

A COUNTRY COUSIN'S EXPERIENCE.

Will the ladies kindly allow a "country cousin" to enter their *Conversazione*? I, also, have felt "lonesome and disappointed" when GLEANINGS arrived without a "piece" from the pen of my favorites—Mrs. Harrison and Mrs. Axtell. I have kept Italian bees with

moderate success, ten years. I never wear anything on my hands while working with bees, and get but few stings during a season. I must have free use of my hands and fingers. I remove propolis with hot water, soap, and ammonia. I cover tan with gloves or mits when I go to church, Sunday-school, etc. I wear a light-colored calico dress, gingham apron and sunbonnet, all well starched and smoothly ironed. My oversleeves are fastened above the elbow, and drawn closely around the wrist. I seldom have to hive a swarm, as I try to keep all my queens clipped. I could not sit down, nor get down on my knees, and handle frames with bees, on account of rheumatism, of which the stings have not entirely cured me; therefore I have my hives stand on benches twenty inches high, under the shade of very large apple-trees. I enjoy standing erect while at work. When very tired I go into the house and lie down.

MRS. MARY HUNTER.

Vicksburg, Mich., May 10.

MAY 15TH GLEANINGS; ONE OF THOSE LARGE BEE-APRONS.

I received the May 15th GLEANINGS last evening, and I could not close my eyes until eleven o'clock, as it was so interesting. We generally get our mail in the evening; and you may be sure that, when GLEANINGS comes, it is a late hour when our eyes are closed.

I am going to try my hand at bee-work this season. We have moved our apiary of over 100 colonies into the heavy basswood; and if good care and strong colonies is all that is needed this year I think we shall get a good crop of honey. I notice the bee-keeping friends are expecting a favorable season.

APRONS.

I have some of those large aprons, such as Miss Wilson speaks of, but mine are made of heavy shirting. I think I shall like the material better than anything spoken of in GLEANINGS, as they look nicer, and are much easier laundered. Speaking of washing reminds me that perhaps all ladies who do their own washing may not know the benefit of using kerosene. If a tablespoonful is put into the suds they are to be soaked in or rubbed through, the ease with which the dirt comes out is surprising.

I have not selected my gloves yet, and am still at a loss to know what kind to get, although I have watched GLEANINGS closely on that subject.

I make our own foundation. Last year was my first experience in that line or in any work concerning the apiary. I did not undertake to do anything in regard to handling the bees, but I am going to make their acquaintance next week, and show my husband what help I can be in the yard. I know he will appreciate it, as he has kept bees so long without a wife's help.

MRS. F. T. HALL.

Prairie Farm, Wis., May 21.

GIVE, AND IT SHALL BE GIVEN UNTO YOU.

Friend Root:—The text, "Give and it shall be given unto you," and your writings have called forth this note. I think, and know by experience, that the more we give the more we shall receive. Nearly two years ago I was left alone, with the responsibility of making our living from 35 acres, and rearing up two children for God. Of all we sell, we lay by a tenth for benevolent purposes, and have enough more to use ourselves than if we gave nothing to the cause of Christ. I work and plan as much as the next woman, doing all our work that we may have means to give. I have 12 colonies of bees, and keep bee-supplies, make foundation, milk two cows, keep sheep, pigs, etc., and

our heavenly Father has blessed all our undertakings. Now, dear sisters in the ladies' department, let us be liberal, and give to the cause of Christ as well as to spend for our own good.

Mrs. EVA HOLE.

Ripleyville, O., May 20.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

PROSPECTS NEVER BETTER THAN NOW; HOW THE ITALIANS CAME OUT AHEAD IN THE RACE.

The prospects for a honey crop were never better than now. The season has been a little backward, with considerable chilly weather. We had no pollen until April 6, and our colonies were very weak—mere nuclei. I lost 20 from starvation. We had no swarms last year. The Italians fared much better than the blacks, and nearly every one of those which perished were blacks and hybrids.

GLEANINGS OF 8 YEARS AGO AND GLEANINGS OF TO-DAY.

While looking to-day at a section I bought of you eight years ago, I took it out of a wide frame. I thought to myself, "What a change!" for it looked rough and dark compared with what you make now. And while looking at GLEANINGS to-day I see your subscription list is about three times as large as when I first subscribed, or more, and still increasing. When Ernest got married you stated that you had a "swarm in winter." I had a notion right then to ask you if you had given it foundation. I see you did, for Ernest keeps right with the bee-business, and I think a good bee-man is awake to every invention. I am pleased that you are so mindful as to illustrate those things, for the most illiterate can read pictures. I would say, that the prospects for fruit, hay, and cereals, are excellent. E. B. MORGAN.

Lucas, Ia., May 27.

HATCHING OUT QUEEN-CELLS IN THE POCKET.

It is doubtless no novelty to you, but it may possibly be interesting to some of the readers of GLEANINGS, that I succeeded in hatching several fine Italian queens by cutting out the cells and keeping them in a small box in my pocket. The cells were, of course, capped over before I took them out. I do not know any thing about handling bees, excepting what I learn from your A B C, and the little experience of this spring; but I am trying to save my Italian queens, and know of no other way practicable for me.

H. G. OTIS.

Clifton, Va., June 1.

[Friend O., the same thing has been done before, and is described in our back volumes. A shallow tin box—a tobacco-box for instance—seems to be what is needed. Put in a little soft cotton, to keep the cell or cells from tumbling about. Then put the box in your inside vest pocket, keeping it so close to your body that it will remain just about the temperature of your body. Such a queen-nursery will do very well. It is always at hand for examination; and when you find a hive that needs a queen, the queen is right with you without running after her. I am inclined to think the idea ought to be in use more than it is.]

AN APIARY FROM A SMALL BEGINNING.

Four years since, in July, I bought of you a queen and one pound of bees. They lived nice-

ly through the following winter. The next year they grew strong, but did not swarm. The second year they cast one good swarm. Last year, while located at Fredonia, Kan., the two colonies both swarmed in April. In the following months both the original colonies and their April swarms cast swarms, so that, in the fall, I had nine colonies of beautiful Italian bees, all from the one queen and one pound of bees. Last year I sold nearly \$50.00 worth of bees and honey, and retained two colonies with which to begin business here in a new home. My two colonies seem to be rapidly increasing, but have not yet cast a swarm. I fear this locality is not favorable to bee culture. N. V. MOORE.

Yates Center, Kan., May 25.

A NEAT WIRE STAPLE INSTEAD OF A HEAVY STONE TO HOLD THE COVER DOWN.

For some years I have used heavy stones to hold my covers down to keep the winds from blowing them off until I got sick of that. I now use a wire bent as shown, the width being $\frac{3}{4}$ in., and the length $1\frac{1}{2}$ in. But the length may be varied. Take an awl and bore a hole a little slanting from the bottom. Then stick in the wire on each side of the hive. They work all right, and do away with lifting a stone every time I want to examine a hive.

BEN. FRANKLIN.

Franklinton, N. Y., May 22.

[Very good, friend F.; but isn't it a big nuisance to be pulling those staples out and putting them back in again? The first Simplicity hives were hinged, and a little hook fastened to the cover like a box or chest.]

HAS TO STOP BEE-KEEPING BECAUSE BEES DESTROY FRUIT.

I have been thinking I must stop GLEANINGS because I can't keep bees here, they destroy so much fruit. I kept one stand over. They have swarmed five times, and are now all bringing in honey from the sage. But before the ripening of fruit I have to kill them. They are my pets, and I hate to kill them. I will inclose a dollar for GLEANINGS. I must have it a little longer.

TANGLE-FOOT CLOVER.

I inclose a slip of what they call "tangle-foot clover." It is in blossom five or six months, and the bees work on it from morning till night. The mountains in this part of the country are covered with it. If you ever come to California again while I live, I want to see you. When you were at El Cajon you were only ten miles from me. I am now 73 years old, and preach twice every Sunday.

A. BIXBY.

Dehesa, Cal., May 1.

SITTING DOWN TO WORK THE HUBBARD SECTION-PRESS.

I note what you say about having to stand up to work my section-press. Please set the machine on the floor, and, after arranging a seat the right height, sit down and go to work, and see how you like it. I fully appreciate the complimentary notices you have given the press.

G. K. HUBBARD.

Fort Wayne, Ind., May 20.

LOOFT'S HOME-MADE SECTION-FORMER; AN EXCELLENT MACHINE.

I want to bear my testimony to the excellence of the section-press described in GLEANINGS, May 15, invented by C. G. Looft. I made one, and it is a daisy. I think it amply pays me for one year's subscription to GLEANINGS.

Fulton, Mo., May 27.

H. S. HUGGETT.

WHY THOSE CAKES FROM JAPANESE BUCKWHEAT TASTED BITTER.

I think I can explain how the buckwheat cakes spoken of by friend Hann tasted bitter, for I had a similar experience. The bitter taste comes from the bran that is left in the flour if the buckwheat was not *perfectly dry* when ground. That taste will be more pronounced if the cakes are kept a little too long on the griddles. When I had my buckwheat ground last fall it was a little damp, and lots of the flour went with the bran. We tried the shorts, or middlings, for cakes; and, while the flour was all right, the cakes made with the shorts had that bitter taste. The great trouble with the Japanese is the size of the grain, which is too large for most mills. I. H. Putnam, of River Falls, Wis., who owns a mill, told me that, when grinding Japanese buckwheat, he put up a spout to bring back the grain that was carried over and would have been lost, and so got a better yield than with the common kind.

GUSTAVE GROSS.

Hillsborough, Wis., May 22.

SPRAYING TREES; TWO HORSES KILLED BY EATING THE GRASS UNDER THE TREES.

For the benefit of others I thought I would report the fact of a neighbor losing two valuable horses by their eating grass a short time in an orchard where there had been spraying done. Nokomis, Ill., May 23. E. S. SANDFORD.

[We sent the above to Prof. Cook, who replies:]

If this be true, the Paris green was used altogether too strong, or else, more likely, was spilled. It should never be used stronger than 1 lb. to 200 gallons of water. Then it may be used very thoroughly, and still will do no harm. I experimented very thoroughly two years ago, and proved positively that there was no danger. I am willing to turn my horse into any orchard, if properly and cautiously sprayed. Of course, we can never be too cautious in using such virulent poisons. I sprayed trees with a mixture twice as strong as should be used, then penned hungry sheep under some which I sprayed thrice; cut grass very close, and fed it to my horse, and this grass was all eaten in a few minutes. This I did twice, and I had thick papers under two trees, which caught all the poison. This was analyzed, and a poisonous dose was not found in all that fell. Thus it will be seen that I have reason for my faith. So I say again, if this report be true, the cause lay in improper spraying or terrible carelessness.

A. J. COOK.

Agricultural College, Mich., May 29.

THE USE OF THE WORD "FRIEND," ETC.

I think those who have been born and reared in the "Great West" will not object to being called "friend."

MY POTATOES.

One day while preparing dinner I cut off the ends of potatoes containing long sprouts. I removed all but one, and then planted them in a large flower-pot, which I had previously half filled with fresh horse manure, beaten down and covered with rich earth. I took them into the honey-house during cool nights. They remained only a few days in the pot, as my husband disliked to see me carrying them around, and I set them out in the garden. But, how they have grown, being far ahead of others planted in the open ground about the same time!

MRS. L. HARRISON.

Peoria, Ill., May 11.

I have noticed, Mrs. H., that there has been

considerable discussion in regard to the word "friend." Now, why not let each one act according to his own pleasure and feelings? I like to address my neighbors as "friends" in the way I have been accustomed to do; and I suppose there is a general agreement so far. When it comes to an enemy, however, or somebody with whom you have had disagreement, is it consistent or wise to address such a one as friend? I presume I got into the way of so doing in trying to obey the injunction of the Scriptures, "Love ye your enemies." It is no easy task, I tell you, for me to *love* everybody; but when I have fought down rebellious feelings so that I have a real honest desire to love those who are unlovable, then I feel happy in telling them what I feel in my heart. When I say "friend" so and so I do not by any means mean to convey the idea that *they* feel friendly toward *me*, but only that I feel friendly toward *them*, and feel an anxiety to do them friendly service. For instance, if some one is using tobacco in a way that is very offensive and disagreeable to me, I shall make very much better headway in inducing him to stop for the time being by addressing him as *friend*, and at the same time having a friendly feeling in my heart. I feel sure there is no hypocrisy about it; for when I absolutely can *not* feel friendly toward a person, I do not use the term; therefore it becomes an outward evidence to those about me that I have conquered wrong feelings toward them; and the word "friend" often helps me to accomplish difficult things, in the same way a good long stout crowbar helps us to move obstacles that we could not possibly stir without its use.—In regard to the potatoes, you have got the idea exactly, of getting early ones for the early market.—Here is something more in regard to the very matter of which we have been speaking:] A. I. R.

"FRIEND" OR "SIR"—WHICH?

Friend Root:—The question has come up in the *American Bee Journal*, p. 600, as to whom we should address as "friend." This question has puzzled me considerably, and I should like your views on it. There are editors and writers of bee-journals whom I am not personally acquainted with, but I have very friendly feelings for them, and should like to address them as "friends." I am not personally acquainted with W. Z. Hutchinson or A. I. Root; but I always address them as "friend," and they reciprocate.

There is another class of editors and writers whom I have no desire to address in this familiar way. Their writings show that, if you should meet them personally, they would be distant and reserved, at least on first acquaintance. Some of our religious and agricultural journals address their subscribers as "dear friend," and it does not seem out of place to me.

W. P. ASPINWALL.

Harrison, Minn., May 10.

MORE HEALTH PAMPHLETS.

Please let me have some more of your health pamphlets, as Dr. Hall is flooding this part of the country with his mysterious pledge and circulars, and I am afraid he gets many a hard-earned dollar from poor people here.

Mound City, Ill., May 13. M. R. KUEHNE.

I am using the Wilford Hall treatment, and have gained 15 lbs. since using it. I find the best results by daily use. Dr. Hall has done the human family more good than any other living man, in my opinion. Long may he live to enjoy the fruits of his experience and labor.

Nevada, O., May 19.

B. F. SMITH.

THOSE STINGLESS BEES.

Why don't you tell the readers of GLEANINGS how you are succeeding with your stingless bees?
 BERNARD REISMAYER.

Henry, Ill., May 19.

[They all died within a month or six weeks after we received them, even during the hot weather. Our climate didn't seem to agree with them. They had plenty of stores too.]

NOT BEES, BUT BOT-FLIES THAT EAT FROM THE SORES OF A HORSE.

I would suggest that the bees(?) the gentleman saw eating sores on a horse were the bot-fly, which resemble bees a little. A neighbor complained to me last summer that my bees were bothering his horse in the stable. I found a few bot-flies, but no bees. I think filthy habits laid to the bees are caused by these insects and ignorant observers.

HARRY L. DWIGHT.

Friendship, N. Y., June 6.

CATTLE HAIR FOR WINTER PACKING.

Last winter we packed two hives with cattle hair, and promised to let you hear how they wintered. They are in fine condition. I have put sections on, and they are working on them some. We are well pleased with our experiment, and have packed fifteen new chaff hives with hair. I should like to find some cheap hair felt to line a few of our Simplicity hives all around inside the lower story. I would reduce them to eight frames. I think we could line extra bodies, and transfer bees without much trouble.

Please don't think we have an ax to grind, or that we are trying to sell hair. What we do want is a good winter packing that can be removed in the spring. Perhaps hair felt will prove just the thing.

MERRIAM & BRODIE,
 Tanners and Curriers.

Warsaw, N. Y., May 2.

ON THE TRACK.

"Myself and My Neighbors" in May 1st GLEANINGS interested me very much, as the village of Elmore is only four miles from here. Mr. Eli Eoff is still living there. He is, very likely, a son of the Mr. Eoff you mention. It may interest you to hear that Elmore is sometimes called the "City of Churches," as there are eight there. I have, however, heard another name suggested for it, that would seem to indicate that, in spite of its churches, the 7th commandment is not observed as it should be.

Woodville, O., June 4. JNO. F. NIEMAN.

[Thank you, friend N. It will afford me great pleasure to mail a copy of the above journal to Mr. Eoff. And, by the way, your town of Woodville is about half way between Elmore and a little place called Pemberville. Thirty-three years ago I omitted to pay the sum of 50 cents to a young man of nearly my own age, by the name of Byron Pember. I think his grandfather gave the town of Pemberville its name. If anybody can tell me where to find Byron Pember, or any of his people or relatives, I shall be very glad indeed to pay him back that 50 cents, with compound interest. I do not say this because I wish to boast of my goodness, but because I believe it would be a grand thing for all of us to start a little wave in the way of paying off old and just debts. If it should take something of a boom, like the new water cure, what a grand thing it would be! I am exceedingly glad to hear that Elmore has so many churches. In fact, there is seldom a lack of churches almost anywhere in our land, if we only look about us and *hunt them up*.] A. I. R.

NEW HONEY, AND THE BEST HONEY-FLOW IN YEARS.

My bees are doing fairly well—just commenced swarming. It is the best honey-flow that we have had for several years. My hives are crowded with bees and honey. I have some very nice white honey ready to market.

Cherry, Ky., May 23.

J. C. HICKS.

Bees did well through fruit-bloom. The drouth is broken now, and bee-keepers are hopeful. I don't think I ever saw such a prospect for white clover. It has just commenced to bloom. Some bees have swarmed. The bees here are mostly blacks; some have Italians, others hybrids.

S. W. BERRY.

Guilford, O., May 25.

OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

QUESTION 187. *Some years my bees store no surplus after clover, and some years they store slowly for some time after. Would you advise me to keep on sections ready for any late flow if there is any, or would you take off all sections at close of clover harvest and then extract if the brood-combs become crowded?*

Take off the sections and extract.

New York. C.

G. M. DOOLITTLE.

Probably the latter method would be best.

New York. C.

P. H. ELWOOD.

I prefer to take off all sections, and extract the late slow crop.

Louisiana. E. C.

P. L. VIALLO.

I would remove the sections and extract the surplus they might make.

California. S.

R. WILKIN.

I generally keep on sections, so if a flow of honey occurs the bees are ready to take advantage of it.

Illinois. N. W. C.

MRS. L. HARRISON.

Your latter suggestion is correct, because fall honey is generally dark; and dark comb honey is of poor sale.

Ohio. S. W.

C. F. MUTH.

I would take off all sections at the close of the clover, and extract after, if there is honey to spare.

Wisconsin. S. W.

E. FRANCE.

You ought to be your own judge in the matter, and be directed by past experience.

Illinois. N. W.

DADANT & SON.

If I had just a few bees I would do the first way; but if many, the latter; still, it's pretty hard to tell.

Illinois. N.

C. C. MILLER.

Take the sections off at the close of the *white-honey* harvest. Save your late stores in the combs until spring to build up with.

Ohio. N. W.

H. R. BOARDMAN.

I would remove all sections at the close of clover bloom, and then watch proceedings; and, if necessary, I would put them on again if I wanted the late honey in sections.

Vermont. N. W.

A. E. MANUM.

I am not an expert at comb-honey production; but I would say, keep on the sections, as I don't

fancy extracting and daubing around with the brood-nest, especially late in the season.

Wisconsin. S. W.

S. I. FREEBORN.

Take off your sections and sort them over. Put those nearest finished on your best colonies, and extract from the rest. It does not pay to produce comb honey when honey is coming in very slowly.

Illinois. N. C.

J. A. GREEN.

If, on an average, the after-harvest is quite light, I think it would doubtless be wise to remove sections and extract. If the harvest is good it is easily discerned, and you can then put section-cases on.

Michigan. C.

A. J. COOK.

The answer to this would depend entirely upon your market. Of late years, colored comb honey has been selling near enough to the price of the white so that I do not think it would pay to change from the production of comb to extracted honey in the same season.

Michigan. S. W.

JAMES HEDDON.

That depends upon what the fall flow is from, and what your market demands. If the late flow is dark honey, and your market demands light comb honey, I believe it would be better to extract the late flow, but, be careful and not overdo the matter.

Ohio. N. W.

A. B. MASON.

I leave my sections on till quite late. If removed to your location I should do the same until experience taught me better. Somehow I don't take much stock in the plan of getting a crop of extracted honey after a crop of comb honey. May be it's all right, though.

Ohio. N. W.

E. E. HASTY.

I am pleased with the Rhode Island plan—secure the first run of honey in sections, then put on extracting-supers. You thus avoid the trouble of having a quantity of half-drawn and half-filled sections.

New York. E.

RAMBLER.

[It seems to me, friends, that the answer to this question must depend on so many conditions that it is hard to get at an agreement. In some localities the dark buckwheat honey follows close after the light-colored clover and linden; and it surely does not pay to have both kinds in the same section—that is, if we can avoid it; therefore not only the locality, but the seasons, and the peculiar circumstances governing the matter in many ways, should all be considered.]

A COMPLAINT.

WHAT ARE THE RULES GOVERNING QUEEN-BREEDERS?

Mr. Root:—One of your correspondents wishes for a column devoted to "growlers" in your valuable journal. I don't think I should like to be a regular contributor to that department; but if I always felt as I do now, I should want some place to vent my feelings. During the first week in May I sent for a queen to one of your advertisers, untested, to be delivered about the 20th of the month. I received word, stating the queen would be shipped *about* the 20th, or a few days later. It is a three-mile trip for me to go to the postoffice and back. I have been eight times, 24 miles in all, on foot, besides losing considerable time, and it is now the 2d of June. As yet I have received no queen, nor heard any thing further from the firm. I pre-

sume the firm is reliable, and that I shall get a queen some time between now and next Christmas, although I paid a May price for it, and really needed it before the 25th of the month. I think I have been treated unfairly. What I should like to know is this: What are the general rules of breeders in shipping queens? Are May queens that are untested, shipped in June? If a dealer can not furnish a queen on time, should he notify the customer or not?

Easton, Wis., June 2. EUGENE HALSTEAD.

[Friend H., I am glad you brought this matter up. This is one of the great troubles in advertising, and selling and buying perishable commodities. Where one lives right next door to the railroad station and express office, as we do, it is not so bad; but where it takes a trip of several miles to get to each mail or express train, then there is trouble. I have just been overhauling our clerks, and I do not know but they thought me needlessly vehement by insisting that a postal card go to every customer on every train that carries his express shipments. These postals are to avoid needless trips, so far as may be. When a customer receives notice that his goods *have been shipped*, then he can take a trip to the express office, and not before. Now in regard to mailing queens: A good many are advertising untested queens at 75 cts. each, and some for even less than that. How is it that we succeed in doing a large trade at a great deal higher prices? Why, simply because our customers learn, sooner or later, that, if they order a queen of us, and pay our price, the queen goes back to them as quick as their card reached us; for, in fact, most of the time untested queens are stacked up on our table, ready for shipment. Last night the queen clerk went home a little earlier than usual; and after the last train of the day had left, I found the book-keepers had a letter in their hands, ordering four queens. They had so much to do they did not get time to look the matter up, and therefore these queens were one train later than they might have been. Was this a small matter? Well, even if it was, there was quite an overhauling among the clerks; and the one who opens the mail was instructed to give the queen clerk notice of all orders for queens whenever letters were so numerous that they could not all be opened until only a short time before the train leaves. The queen clerk was also directed to ascertain, before leaving the office, that no queen orders were on hand unfilled. Why, we very often open a letter ordering goods by mail, at half-past four, and get the goods on the train as it passes our office at ten minutes after five. Now, this sounds a good deal like an advertisement of our business. In one sense it is; but my motive in explaining it to you as I have above, is, that you may copy our methods, so far as you can, and thus not only hold your customers, but get even better prices for your goods than you now do. You will do much more business by asking a dollar for your queens, and getting them off by return mail, than to advertise them for 50 cts., and use your patrons as friend H. tells about. Perhaps it will help matters a little to have the name of our advertiser given in our next issue, who made a customer go 24 miles on foot for his queen, and did not get her, even then. If he has any explanation to make for such slackness in business, let him make the apology himself. In case he could not mail the queen at the time agreed upon, he certainly could have sent a postal card, to save our friend all this trouble; and if it were myself, I should tell friend H. to make out his bill for the 24 miles of travel, and I would pay it. In fact, that is just the way our business has been built up.]

OUR HOMES.

Judgment will I also lay to the line, and righteousness to the plummet; and the hail shall sweep away the refuge of lies, and the water shall overflow the hidingplace.—ISAIAH 28:17.

In our gardening operations—in fact, in our general work throughout our grounds—there is such a constant need of a string or a line that I keep balls of string scattered all over the premises. When somebody wants to pick them up I say, "No, no! let it be right where it is. We want a line so often that we can not afford to run to the tool-house every time one is wanted." A whole ball of hemp string costs only three cents; and it is cheaper to have them around in different places than to run after them. When we first commenced gardening I bought an expensive line, with cast-iron reel and stake. This was very handy, it is true; but it took so much time to go after it that I got into the way of using just a simple string. Where they were left out in the rain and sun, these strings became rotten after a time, as a matter of course. But a *rotten* string will do excellent service if you do not pull it too hard. A man will be cutting a ditch, for instance; and as it is only a little way—may be by the side of the roadway—he thinks he can do it well enough by his eye. The consequence is an ungainly and awkward piece of crookedness that pains me every time I see it. Now, even a rotten string would have saved this. It is just as easy to dig in a straight line as in a crooked one. In fact, it is easier and shorter. But it seems hard for the average man to learn this. In our lessons in geometry one of the axioms was, that a straight line is the shortest distance between two points. Oh how I wish people could believe this! They believe it in the *abstract*; but when it comes to practical work, how we are pained constantly by crookedness and awkwardness—yes, when it would have been much easier to go straight! I have sometimes remonstrated at the crooked work. Then the man takes his spade and tries to straighten the ditch. Very likely he makes it worse. Then he suggests, "Oh! you want me to take it off a little here, do you?" Then he goes too far and makes it worse again. Very likely he thinks I am hard to please, and may be he says, "Well, where is the place where it wants straightening?" I suppose I ought to answer mildly, but I am afraid I do not always do so:

"My friend, neither you nor I nor any other man can tell what will make it straight and right, by simply squinting and tinkering at it here and there. The only thing that can be done is to stretch a line or string of some sort; then take your spade and cut down close to the string, being careful meantime that nothing crowds the string one way or the other. In fact, you must not hit the string with your spade. Let the string alone; and if it is drawn up just tolerably tight, it will of itself take the shortest distance between the two stakes—an absolutely straight line."

The line or string settles the matter—it is positive and conclusive. It is exactly right, and there can be no question about it. In fact, there is no opinion in regard to the matter. All the world is in agreement. There is a great deal that is uncertain and unsettled in this world; but there are at least a few things that are absolute and always true. In our lessons in geometry we had one that seemed to me *then* a piece of foolishness. It was something like this: "For illustration, let us suppose that a straight line is *not* the shortest distance between two points, and that some other line would be shorter." And then follows a demon-

stration. Of course, it ends in an absurdity, for it *starts* in one. This form of logic is called a *reductio ad absurdum*.

We all admire straight lines where there is an attempt to make them straight. A few days ago I was invited to take a ride on our new railroad. The track was not only crooked sideways, but it was crooked up and down; and we went up as one does in a boat over the waves, and then down again. We were also rocked from side to side. Finally I sat at the back end of the car, and looked back at the new track. It was not yet finished ready for rapid and heavy traffic. Finally we came to a railroad-crossing; and while they stopped briefly I took a look up and down one of our *great* railway lines—in fact, one of the *first* that was built through the State of Ohio. Oh what a contrast! On this great thoroughfare the tracks are worn so bright that they were literally unbroken bars of polished steel; and as they ran away off in the distance in either direction, they were so beautifully straight and true that it made a wonderful contrast with the *new* road I had just been riding on. Now, I suppose these lines of rails have been for years just as accurate and beautifully straight as they are now; but I never noticed it before. The experience I had just been having with *crookedness* had enabled me to appreciate the straight line. May be some of you, my friends, may begin to suspect ere this, that my remarks are drifting toward something of more importance than nice gardening or even skillful railroad building. It may have occurred to you before to-day that this is a world of crookedness, crooked things, and crooked people. Saddest of all, perhaps, to a greater or lesser extent, we have *crooked Christians*. What a thought! Lord, help us in our aspirations toward perfection. Now, the question confronts us, "Has the Christian a rule or plummet to shape his life by, as the gardener would shape his trenches? Has he a *line* that can be stretched so he may map out his pathway, and have it not only fair to look on in men's sight, but tolerably fair and pleasing in the sight of the great God above?" Yes, I am sure he has; and the crookedness, like that with the gardener, is because he *forgets* to apply his line. It is because he tinkers in trying to make *himself* straight—trying *every thing* first before he stretches the line of *God's holy word*. You may say there are differences of opinion among even conscientious Christians. Yes, so there are; but not in things of very great import. The whole world agrees that a straight line, as I have said, is the shortest distance between two points. The whole world also agrees, or at least *claims* to agree, to the oft-repeated phrase, that "honesty is the best policy"—at least, they *say so in words*. Then why do they not say so more in *actions*? Is there any one among us whose actions indicate every hour and minute of his life that he fairly believes that honesty is the best policy? Perhaps some one says, "Look here, brother Root, why don't *you yourself* apply that *line* you have been telling us about, and so show us yourself a perfectly straight Christian character?" I was really afraid, when I started out, that some of you would crowd me into just that corner. Now, if honesty is the best policy in all things, of course I should be *honest* in my *reply*, and I will try to be. Frankly, then, my dear friends, the reason why I am not a better man than I am, is (to tell the truth), that, for the time being, I like a *crooked* line better than a straight one. In other words, when *duty* plainly and clearly draws a straight line for me to live by, *inclination* clamors so *powerfully* that only crookedness comes of it all. Like the new railroad, I have mapped out a line that is *tolerably*

straight. This straight line, I hope and believe, has this earth for *one* of its stakes, and heaven above for the *other*. I think there is progress plainly to be seen, from earth toward heaven; but, oh dear! what a spectacle of short small crooks, from the right to the left, and then up and then down! Is the line growing straighter as it gets further from earth and nearer to heaven? I believe it is.

Why should *anybody* prefer some other way than a straight line? In one sense I do not know, and in another I do know. Paul says, "It is no more I that do it, but sin that dwelleth in me." This gives me courage: for even Paul, the veteran saint, had experience in this unceasing war against sin. In fact, he *calls* it war. See: "But I see another law in my members, *warring* against the law of my mind, bringing me into captivity to the law of *sin* which is in my members." Then he adds, "Oh wretched man that I am, who shall deliver me from the body of this death?" Very likely these battles—this war that Paul speaks of—were silent and invisible conflicts. One might think that a man as busy as I am would have no time to give to spiritual conflicts, and perhaps he would have no time to listen or look to any thing that *Satan* has to offer. Not so. A week ago I had been congratulating myself that certain battles were fought and won. The enemy had fled, taking all his artillery. The battle-ground was clear. Not a glimpse nor vestige remained. I was happy over snatches of old hymns that told of deliverances, and of battles ended, and almost began to think that I could say with Paul, at least in one direction, "I have fought a good fight; I have kept the faith; henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous judge, shall give me at that day." I *did* remember the injunction, "Let him that thinketh he standeth take heed lest he fall;" but I felt myself so *perfectly* and *thoroughly* delivered from temptation that I even quoted the text, "As far as the east is from the west, so far hath he removed our transgressions from us." And I began to feel that God had given me a standing-place to labor that I never enjoyed before. For the first time, almost, I could look unmoved, and without any feeling whatever, on things that had been dangers and snares to me all my life long. Intemperate men find it better for them to shun the old haunts of vice, as well as old companions. Well, now, suppose one who had battled with this fierce craving for thirty or forty years should suddenly find himself entirely *free* from his old appetite, and free from bondage. Suppose he could look upon old sins and old associations without a particle of desire in his heart for the things he had battled with all his life. I once heard a reformed man say in a revival meeting that it would be no trouble at all for him to walk home in the darkness of the night, with whisky-barrels lining the way on both sides of him, and tin cups hanging out, ready for him to drink from. God had delivered him so thoroughly and effectually from his old appetite that he was a new person. There was as little desire in his heart for the intoxicating cup as if he were some one who had never tasted it and knew nothing about it. This is putting it *strong*, I know; but I believe such deliverances do actually happen. They have come to me in my own experience, as a result of earnest and continual prayer. Sometimes I think I am not like humanity in general. I wonder if it is possible that the people about me go through such *fierce* battles as I do. They seldom say any thing about it, and their looks do not seem to indicate it; yet now and then something tells me that we are, after all, much alike.

Well, only about a week ago Satan came back in a new guise—at least, in a different one from any I had ever known before. The danger-signal sounded, but so faintly that I began to think may be this new experience was nothing particular out of the way. Another thing, it was a very strange and curious circumstance. A short time ago I spoke to you about the happy *surprises* God sends to those who are faithful. At first I almost began to think this was one of those "happy surprises." Duty said, "*Be careful*;" inclination said, "Let us watch the thing a while, anyhow, and find out the philosophy of it." I remembered the path that Christian and Hopeful took, and where it ended. Now, then, where is that line that can be drawn to tell us just what is the straight and narrow path and what is not it?

And now I have come to the point of my talk to-day. Is there such a line for our course of action? Oh! to be sure there is; and I am glad of this experience that has pointed it out to me so unmistakably. Did this new temptation cause me to love my Bible more? No, it did not. Did it draw me to my closet for private communion with my Savior? Not at all; for, come to think of it, my daily devotions alone by myself had been for some time skipped, and this was one thing that let Satan in. Did it bring me *nearer* to my Savior? Almost in dismay I discovered that my heart was growing cold, and that I was in no spiritual state to exhort any one to come to Christ. This is the line, dear friends: *Does the thing that you are undecided on draw you nearer to Jesus Christ?* Inclination said, "Well, never mind. All Christians have their ups and downs, and it is nothing strange if you should have yours." Besides, for the time being something *not quite* a straight line seemed so much more attractive than so strict and puritanical a life, that I almost felt like rebelling a little, and saying that the Bible commands are *too* strict. How about morning devotions, asking a blessing at the table, etc.? Oh! I got through with it all pretty well, but there was not any real *enthusiasm* and *bright joyousness* about it. Sunday was coming, and I should go to God's house, teach my Sunday-school class, and speak in prayer-meeting in the evening, feeling myself crippled to at least *some* extent—*crippled by sin*. Did you ever feel yourself in that predicament, my friend? Then came before my spiritual vision the hardest obstacle to surmount of all. The time had come for my semi-monthly Home talks through GLEANINGS. I have felt for years that these must be messages from the Holy Spirit; but the Holy Spirit could not speak to me nor through me with my present low spiritual state. "Ye can not serve God and mammon." This new thing that had proved to be so attractive must be banished, *rooted* out, and routed entirely. Now, I have told you many of these experiences. *Some* of you may tire of them; but *others* will not, I am sure. But let me say, that, of all the conflicts I have ever had with the prince of darkness, perhaps this was the most fierce. It seemed as if he had got his fetters about me, body and soul. I did not meditate nor purpose any thing bad or wrong—quite the contrary. Yet my better judgment told me what lay beyond. I was treading on the brink of danger. Prayer did but little good, because I did not really *wish* to give up a line of thought that seemed so wonderfully attractive, and that began to mix itself in with most of my thoughts. A new minister occupied the pulpit Sunday morning. In fact, he was a *student* in theology, not yet having completed his studies. I am always interested in boy preachers. Their inexperience always sets me to praying for them, and gives me sympathy for them. This young

minister in his opening prayer, by a strange coincidence (as most people would call it), began praying for me. Of course, he prayed in a general way, and called nobody by name; but he spoke of a series of steps by which sinners are led, in a way that almost startled me. His sermon was about silent or invisible conflicts; and he described my state of mind. He spoke of conflicts that our nearest friend or relative knows nothing about, and never dreams of—conflicts where only God and the sinner look on. I commenced praying at first in a hopeless sort of way. It was hopeless, because I did not really want to be different. Yes, in one way I did want to be different, and in another way I did not. When the sermon was half over, however, I felt that Satan was losing his hold, and that Christ Jesus was coming nearer and nearer—yes, and dearer than he had ever been before. Do some of you say, "Why, brother Root, you have told us just such a story as this before?" Well, I tell it again to-day because it needs telling again. In the first place, it is not a safe thing for me to stay away from regular church services; neither is it a safe thing for you. The Bible says so again and again. Another thing, I have made a discovery since I wrote before. The discovery is this: The Christian always has a line right at hand to tell him when he is getting out of the straight and narrow path, and into crookedness. If there is any thing in your life that dulls your spiritual enjoyment, and seems to separate you from your Savior, give it up—let it go. Jesus said, "If thy right hand offend thee, cut it off and cast it from thee: for it is profitable for thee that one of thy members should perish, and not that thy whole body should be cast into hell." You are lost if you keep on in it. The arch enemy of humanity is more subtle, more ingenious, and sharper, than you ever dreamed he was. Peter warns us that our "adversary, the devil, walketh about, seeking whom he may devour."

Perhaps some have become wearied in our recent Sunday-school lessons by the incessant idolatry and idol-worship. We are inclined to think that it is a thing of the past, and that we of the United States of America have nothing, or comparatively nothing, to do with any such thing nowadays. God objected to idolatry, because it led the people away from him. Now, stretch the line I have been telling you of over whatever leads you away from God; and whatever leads you away from God is idolatry. It is as hateful in his sight now as was the idolatry of olden time, and we are in just as much danger now as then. Making garden, raising strawberries, caring for bees, and all such things, may take your time and attention, and may occupy a large part of your thoughts to keep you busy; but so long as you can kneel down and thank God for the fruits, flowers, and bees, these things will come right in that line that a Christian may follow. In fact, God is pleased to see us enjoy these things, because they are his gifts. A love for such industries helps us to be better Christians; and a love for God helps us to grow better strawberries and nicer honey. There is no idolatry about it, and no wrong about it—that is, generally speaking. Of course, one may be injudicious in launching out into such things in a headstrong way, and thus wrong his relatives or neighbors. But the world is full of simple, honest enjoyments without listening to Satan.

During such conflicts as I have mentioned, if you let cool reason look on and decide, you will find that, eventually, the matter resolves itself into two sides, with a straight, sharply defined line between them. One side has God and Christ Jesus; the other side has the world and

Satan. You can not well be on both sides of this line. The only course is to renounce at once and for ever the thing that promises to be wrong and hateful. Turn your back resolutely to every appeal that Satan makes. I think it quite likely that he works more fiercely for one who stands prominently before the world, for God, and for the right. He realizes that every such person is an enemy and a stumbling-block in the way of his progress; and he leaves no stone unturned to accomplish his ends. His machinery, and the things that are at his command, are greater in variety, and more powerful, than either you or I dream of. Search the Scriptures, and see if they do not tell you the same thing.

There is another part to our text that I have hardly considered. One of Satan's plans is to convince his victim that he is perfectly safe. He persuades him that there is not a shadow of a chance of the secret being discovered. Oh what folly! Go and talk with the inmates of our jails, or even read the pitiful records of our daily papers. It is a constant wail of "Oh! I did not mean to do any thing wrong. I did not for a moment dream that this could be the outcome of what seemed so harmless and so innocent. Oh! what would I give—what would I give—if I could have a chance to do this thing over again?" Now, you may think, my dear friends, that I am taking a good deal of time and space in dwelling on temptation. But Satan's temptations are the stepping-stones to crime. If the boys and girls of America can be taught to view these silent and invisible battles as the turning and deciding point of their lives, our country shall be spared the fearful record of crime and iniquity that is boiling and bubbling up constantly first here and then there. No neighborhood is spared. Satan's captives are found first to the right of us and then to the left. A neighbor's family is wrecked. By and by the world is startled by something that had its starting-point in your own home. Let us remember and believe that Satan is constantly and unceasingly going about, seeking whom he may devour. Let us recognize the fact that he even goes away and leaves you free, that he may only get an advantage to trip you and entrap you unawares at some other time. Let us deliberate long and well before we consent to any act or thing that will rob us of the peace that only God can give. At the noon service a few days ago I asked the question as to what is worth most to us in this world. There was a diversity of replies. Somebody said, "A clear conscience." I should say, the peace of God in your heart, and a feeling that you are on friendly terms with the Savior of mankind, and enjoying communion with him.

The law of thy mouth is better unto me than thousands of gold and silver.--PSALM 119:72.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

BREED'S WEEDEE.

Although we have had this nearly a year, we have only just discovered what a wonderful tool it is. There is this about it, however—the ground must be very fine, soft, and nice. Last season it was nearly all the time so wet that we could do nothing with it satisfactorily. This year during the dry weather we got our potato ground in beautiful order. It was rolled and harrowed until it was soft and fine. Then after the potatoes were planted the ground was rolled so as to be level and smooth. As soon as they were up fairly they were gone over with a

Planet cultivator; and then it occurred to me that they were in just the right condition for the weeder. The Planet tool had left a crust from six inches to a foot wide around the plants. In this crust the weeds were just starting. I thought it looked just right for the weeder; and although some of the potatoes were almost a foot high, into them we went. The steel teeth broke every bit of the crust up fine, rooted out all the weeds, and tipped the potatoes over so I really feared they were harmed, at least to some extent. A summer shower, however, came on in the afternoon, and in the evening the potatoes stood up just splendidly. As we passed along the rows I asked Mrs. Root if she ever saw a nicer job of hoeing.

"Yes," said she, "it is very nice. One of your careful, high-priced men must have done it."

And then I laughed as I replied, "Why, my dear wife, those potatoes have never been hoed at all. In fact, a hoe has not been among them. It was all done with the Breed weeder. The man who did it remarked, before he had got half through the first row, 'Mr. Root, this tool and the Planet cultivator are two of the best tools you have on your grounds.'"

It did just as good work in the corn. He asked if he should try it in the beans; but I told him it would break them off. I felt pretty sure; but in the afternoon he said it did the beans just as well as it did the corn and potatoes, and he did not see that a bean had been injured. To do this, however, your ground must be clean and fine, as I have said before; and if it crusts you must wait until just the proper time after a shower, so the crust will break easily. The fingers of the tool break it up just as you break it with your fingers—the corn, potatoes, and beans, being rooted so deeply they simply bend over and slip between the fingers. It is much on the plan of a smoothing-harrow, but it is worked by one horse, and is very much easier on the plants. As you need to go only *once* through every other row, you get along about *four times* as fast as you do with an ordinary cultivator. But the cultivator is needed occasionally as well as the weeder. Our experiment stations have said a good deal in regard to mutilating the roots by cultivating too deeply and too close to the plants. I agree with them; but I am sure *our ground* wants cultivating deep and fine while the plants are small. The ground must be worked fine, away down deep, before the seeds or plants are put in, and then it must be worked almost constantly to keep it from getting hard, and cracking during dry weather. When your ground becomes so hard that it cracks open with cracks that go down an inch or two, your crop is greatly injured. In some soils the only way to prevent such a state of affairs is constant stirring. When we have tremendous rains, such as we had last season, so that every thing settles down hard and compact, it is a pretty hard matter to keep your ground in order. Thorough underdraining at such a time is an absolute necessity. And then you must watch the condition of the soil, and just at the moment it works right, put all your force into the crops, and make your soft-dirt blanket to protect the surface before any baking or cracking can do you damage.

EVERETT'S HAND CULTIVATOR.

My impression is, that the Everett Seed Company (Indianapolis, Ind.) have made a real and decided improvement in every thing in the form of hand-tools. The novel idea consists in having a brace to propel the machine, to come right up against the body—say a little under the arms. This enables you to push the cultivator forward without crowding with the hands at

all, the hands being left free to handle the hoes that do the work, just as you would handle a weeder in your hands. A good strong man, with this tool, is a pretty good substitute for a horse and cultivator; and when it comes to narrow rows in onion-beds, parsnips, vegetable oysters, etc., the tool is really a big institution. So many hand-cultivators have been sent us to test, I was reluctant about having another in our tool-house; and I waited quite a while, so as to be sure that this was really an improvement above all other hand-cultivators. I now feel satisfied that it is really quite a step ahead.

THE AMERICAN PEARL ONION FOR FALL PLANTING.

These onions, spoken of in our last issue, are, some of them, now (June 4th) $2\frac{3}{4}$ inches in diameter. They are of such pearly whiteness that all we have to do to get them ready for the market is to pull them and wash them in running water in the brook, and they are ready to tie up. Whether they will answer for hard, dry onions or not, I do not know. I have written to Johnson & Stokes, but they do not answer. We are getting 5 cents for a half-pound bunch, and the demand is ahead of the supply. Of course, I want to let some of them stand in the ground, to see how large they will grow. Very likely they must be used soon after pulling. The flavor is so mild that they may be eaten from the hand like an apple. Whether the onion is a good keeper or *not*, it is certainly a wonderful acquisition to market-gardeners. The work can all be done in the fall when things are not crowding; and all that is necessary is to cultivate them in the spring, when the ground is settled and dry enough. A great many of ours started a seed-stem; but after these were once cut off, they all seemed to go right to work making good-sized bulbs. At the present writing I can not see why they do not answer the purpose exactly as well as starting the seed in the greenhouse or from the bed, and planting out in the spring.

TOBACCO DUST NOT A SURE CURE, AFTER ALL.

With regret I am compelled to give notice that tobacco dust does not always manage the striped bug. During April and May it seemed to be a complete remedy; but one evening, early in June, I was greatly astonished to find our Hubbard squashes literally covered with striped bugs, and some of my squashes were so dried up that I could hardly see where they had been growing with great luxuriance only the day before. The tobacco dust seemed to hinder them for a time, but the Hubbard squash was too tempting a dainty; and when they got at it in droves there seemed to be a strength in numbers to resist even the powerful odor of the tobacco. The tobacco dust seemed, however, to answer the purpose perfectly for melons and cucumbers until to-day, June 10; and now we are going back to our wire-cloth screen again. And even with these the bugs seem to be so fierce that, unless the dirt is very thoroughly packed around the edges, they will get under and be just about as bad as if no screen were on. Another thing, just as soon as the leaf of a squash grows up so as to touch the wire cloth they gather about it like a lot of bees, and just riddle the leaf wherever they can reach through and take hold of it. We have been raising the screens up and banking the dirt a little higher around them. If they do not let up pretty soon I do not know what we shall do for Hubbard squashes. The principal part of the damage was done this season after the vines had their second leaves. Some of these second leaves are as large as the top of a teacup. We are hoping the wire-cloth screens will keep the bugs at bay until the bug time is

over. They seldom trouble us very much after the first real warm weather. Now, then, friends, this is a little humiliating, after having given tobacco dust such a recommendation as I have done. I was encouraged to do so because our experiment stations recommended it so strongly. So far it seems to rout the little black flea-beetle completely. If you paid us money for tobacco dust that has not been worth what it cost you, let us know and we will credit you what you paid.

DISPOSING OF YOUR STRAWBERRY CROP.

A little incident has just occurred, that suggests to me a way in which both growers and consumers can be greatly benefitted. An old bee-friend in Marietta, O., sent us, on Decoration day, two bushels of beautiful Sharpless, Jessie, and Bubach strawberries. They made the whole trip across our State, and reached us in almost as nice order as when shipped. At the same time, we received a crate of strawberries from a Cleveland commission house. The latter cost more, and were not in nearly as nice order. We sold the Marietta berries so well that I telegraphed to our friend to send us two bushels a day until further orders. We paid him 10 cts. a quart, delivered here, and it would do you good to see the people flock around those berries when the crates were opened. They are large fine berries, good measure, uniform all through, and put up in neat packages. We sold them at 13 cts. a quart, or two quarts for 25 cts. One bushel is usually sold here in the evening, and another goes on the wagon in the morning. So you see our friend across the State has furnished us strawberries fully two weeks before ours were ready to put on the market. Now, what is to hinder having just such arrangements between grower and consumer all over our land? No middle-man has any thing to do with it; and the berries never stand still a minute, waiting for customers. The express charges are a little over a cent a quart. But perhaps many lines of these could be started, where the transportation would be even less. After strawberries are gone here, I should be very glad to make some such arrangement with somebody in the north. It seems a little strange that there should be a difference of two weeks in the period of ripening, between Medina and Marietta—a straight line, almost south, of only 135 miles. But I presume our Marietta friend escaped the frost that took off all our earliest berries. Here is a letter from the man himself:

Mr. Root:—Your favor of the 3d is at hand. I will ship two bushels a day at your figures as long as I can afford it. By the way, how did you like the Bubachs I sent you? Do you grow them much larger on your ground? We picked 27½ bushels to-day of nice berries. Thank the Lord for the strawberries. I have given the bees plenty of room and told them to go it; and they do. To all appearances we are going to have an old-fashioned honey season.

Marietta, O., June 4.

R. STEHLE.

JUNE 15—JUST BEFORE GOING TO PRESS.

We can furnish you beautiful strong transplanted cabbage-plants in any quantity, and, in short, almost any other vegetable-plant you can think of. New strawberry-plants are fairly rooted, but perhaps would be better if not sent out before ten days or two weeks.—Last Saturday night I found the Hubbard squashes crowded so closely under their wire-cloth coverings that I decided to strip them all off, and let them take their chances with the bugs. This Monday morning I am rejoiced to see them growing with wonderful luxuriance, and not a bug in sight anywhere. It was not tobacco, and it was not the wire screens. What became of them? May be Prof. Cook can answer.—During these

hot June days, do you ever get so thirsty that it seems as if the more you drink the thirstier you are? Well, get a chunk of ice as big as a goose-egg, and crunch it up between your teeth, and then swallow it as fast as you can. It will cool and refresh you wonderfully; and instead of harming your digestion in any way, I think you will find it just the contrary. This is one of the luxuries that come from having a carp-pond to give you beautiful ice for the summer time.—During hot weather there is no need of going to the trouble of getting hot water for the internal water cure. Just set a large-sized crock in your out-building, and keep it filled or partly filled with water. Now, if you can have right beside it a great big can of dry dust from the road, you can keep your out-building tidy and sweet-smelling. There should be a good-sized underdrain to communicate with the vault beneath, to take off all surplus water. Ours has a twelve-inch tile, and we manage to get fall enough to put it four feet below the surface of the ground.

CONVENTION NOTICES.

The Rock River Bee-keepers' Association will hold its next semi-annual meeting on Thursday, Aug. 6. J. M. BURCH. Morrison, Ill.



Satan himself is transformed into an angel of light—II. COR. 11: 14.

BEE-KEEPING and amateur photography are somewhat alike. There is a fascination about both. But there is more money in bees.

LE RUCHER (*The Apiary*), one of our best French exchanges, devotes four pages to the illustration and description of the Hill smoker.

PROF. COOK writes that the last edition of his book has been changed, several pages being entirely reset and several cuts exchanged. We are glad to make the correction.

A DISPATCH from Washington, dated June 13, says that Assistant-secretary Spaulding has decided that queen-bees can be admitted entry free of duty. This will be highly gratifying to queen-breeders.

It proved as we surmised, that the beautiful bees which we noticed on page 484, in our last issue, editorial columns, coming from J. F. Michael, came originally from L. N. Hearn, of Frenchville, W. Va. If we are correct, all these four and five-banded bees were developed by Mr. Hearn from stock which he obtained of G. M. Doolittle.

ELMER HUTCHINSON, Rogersville, Mich., has just sent us a cage of beautiful yellow bees, and they are all five-banded. Wonder if he selected out the yellowest, or took them off the frame just as they came. These yellow bees are so transparent through the abdomen that you can almost see the internal organs when the bees are placed on the window. Who is going to be the lucky chap to produce Italians with abdomens all yellow, with not even a trace of black?

MR. ANDREU, editor of our Spanish exchange, *Revista Apicola*, speaks of GLEANINGS as "perhaps the best apicultural journal that sees the light." Thanks, friend A. Light is just what we are after. By the way, some of our transatlantic friends seem to be as much surprised at the American way of doing things, especially on the part of the lady bee-keepers, as Columbus was when he came here on a picnic in 1492. *E pur si muove* (and yet it does move), as Galileo insisted.

DARSEY GRIMSHAW, in the *British Bee Journal*, recommends apifuge as a protection from stings, as an excellent substitute for gloves. It did not work with us. As much as we detest gloves for working among bees ourselves, we should object still more to besmearing our hands all over with apifuge. When our bees sting, they do so without any preliminaries. They do not wait to reconnoiter and see whether the object which they are to sting smells right or is repulsive. They take aim, and go straight to the mark.

We have just received "A Practical Handbook of Apiculture," written in the Russian language by Mr. Andrieschiew, of Kiev, Russia. It contains 240 pages, nicely printed on good paper, and is thoroughly illustrated. The price of the book is one rouble, or 77 cents; but the postage on it from Russia was \$1.55, as that country is not in the International Postal Union, or "Postal Combine," as some might call it. From France or Germany the postage would not have been over one-fifth of what it was from Russia. We hope our friends in Russia will soon join hands with the rest of the world, in postal affairs at least.

ONE of our foreign exchanges, we notice, advises rejecting all combs over four or five years old. We can not but consider this as unwise. We have some combs that have been in use ten years, and the bees that hatch from them are as nice and large as any we have in the yard. Old tough combs are good stock in trade with us; and while the advice given would boom our foundation trade, it would also at the same time be a serious pull on the pocket-books of the bee-keepers. Has not nature so provided that these old combs shall not get their cells reduced to a size detrimental to the fullest development of the bees? Such advice, if founded on an incorrect principle, is serious and damaging. How is this, ye sages of apiculture? See what Dr. Miller says under Straws.

We should be glad to have our readers tell what features or departments of the journal they like, in order that we may be guided as to what portions we should give most prominence. Do not be afraid to offer criticisms, providing they are given in the right spirit. A few days ago we received some criticisms from a subscriber, to the effect that the journal was deteriorating, and that we published communications that are worthless, etc. We were suspicious, and finally looked back over some old correspondence. The search revealed the fact that we had rejected manuscripts from our dissatisfied critic. Such critics have but little weight; but criticism from an honest well-wisher goes a long way, and has weight; and we desire, as far as possible, to keep in perfect feeling and touch of our subscribers.

OUR new improved Benton shipping and mailing cage will deliver a queen to any part of the United States for one cent postage, and

the method of introducing has been so perfected that we think it will satisfy the most exacting. This cage embodies some features of the Dixie cage of J. M. Jenkins, as well as some improvements of our own, dictated by long experience. The directions for introducing are printed on the inside of the cover. These not only tell how to introduce, but under what conditions. The outside of the cover has the card of the producer, as well as the words printed in big black type, "Queen-bee—deliver quick." Under this is indicated by dotted lines the place for the full address. The cage embodies the results of the work of several minds, and is very near the *ne plus ultra* of shipping and mailing cages. The proof of the pudding is in eating it, for we mail annually hundreds of queens.

MR. BALDENSBERGER, AND D. A. JONES'S RECOLLECTIONS OF HIM.

THE *Canadian Bee Journal* copies the article from Mr. Ph. J. Baldensberger, which appeared in our issue of May 1, page 365. The editor appends a foot-note which we consider to be of such general interest that we copy it entire. To get the connection, please refer back to Mr. B.'s article, and then read the following:

When we visited Palestine in 1879 and '80, among the pleasant acquaintances we met at Jerusalem was Mr. Baldensberger. We selected him as likely to make the best and most thorough bee-keeper in that section. He assisted us in making movable-comb hives in a little workshop belonging to the English school, outside the walls of Jerusalem, at the southwest corner, near the Tower of David. In the garden there, belonging to this school, was transferred from their ancient hives the first colonies of bees. We recollect when we commenced the operation how doubtful many of the scholars were, as well as the teachers, as to the success of our undertaking. After we had transferred one or two colonies, however, they took hold and assisted, exhibiting great interest. Mr. Baldensberger has had advantages that many have not had, and he can give very valuable information in reference to Palestine, or, in fact, about all of that section of country around the Mediterranean Sea. It is pleasant to know that the new mode of bee-keeping introduced in Palestine ten or twelve years ago is being made good use of, and that, through the influence of Mr. Baldensberger, many have become quite expert in the business.

OHIO'S BEE-INTERESTS FOR THE WORLD'S FAIR.

THE Ohio State Bee-keepers' Association at Toledo appointed Dr. A. B. Mason, C. F. Muth, and J. B. Hains, to look after the securing of an appropriation by the State to provide for the expense of Ohio's apiarian exhibit at the Chicago Exposition. A few weeks ago, with this purpose in view, the doctor made a trip to Columbus and interviewed the commissioners of the World's Fair. One of them wrote him a letter saying that they would have another meeting in Cleveland, on Thursday, June 4, and suggested that then would be a good time for representatives of the Ohio State Bee-keepers' Association to be present and state their needs. Accordingly, at the summons of Dr. Mason, Mr. J. B. Hains, Miss Bennett, J. T. Calvert, and E. R. R., by appointment met at the Hollenden Hotel, whither, also, the commissioners of the World's Fair were to meet at 10 A. M. sharp. Mr. C. F. Muth had written Dr. Mason that he would be on hand, but did not put in an appearance; also other bee-keepers were invited, but they did not appear. After holding a short preliminary consultation, we agreed that we would not ask for any stated sum of money by way of an appropriation for the bee and honey interests, and that we would request the commissioners to put the whole matter into the hands of the Ohio State Bee-keepers' Association.

tion. We then repaired to a parlor where the commissioners were in session. At the proper time Dr. Mason as spokesman arose, and, after stating what the bee-keepers of other States were doing, and the importance of the bee and honey interests of the State, and the number of bee-keepers, requested that the commissioners put the whole matter into the hands of the State Association. As soon as the said association knew that they were to have charge of the preparing and caring for the exhibit, they would proceed to look after details. Dr. Mason was just the man to state our case. He made his modest little speech to a body of picked men. This body was made up of some of the best men in Ohio, full of business and vim; among them the Vice-president of the Baltimore & Ohio Railroad, Captain W. W. Peabody, the chairman of the board; Mr. Ritchie, and Hon. Harvey Platt, U. S. Commissioners for Ohio; L. N. Bonham, Secretary of the State Board of Agriculture, and others. One of the number, the chairman, was disposed to have a little fun; but he found he had his match in Dr. Mason. Said he, "Mr. Mason, about how much space will the Ohio bee-keepers want?" The doctor replied that he always liked to ask for enough. Turning to E. R. R., with a twinkle in his eye, he said, "I think we need about 10,000 square feet." The commissioners, and especially the chairman, were nonplused; and the Vice-president of the B. & O. railroad began to take out his pencil and to figure. In the meantime, the doctor behaved himself very circumspectly. Pretty soon they saw the joke, and began to laugh; and by dint of questioning, they learned that about 2500 square feet would answer.

It is some cause for congratulation to the bee-keepers of Ohio, that they have made their application early—perhaps as early as any other association; and through Dr. Mason they stand well with the commissioners, and will doubtless receive a fair share of the appropriation and space under their control.

Our delegation made a very favorable impression upon the commissioners, several of whom showed much interest in the matter, and voluntarily promised to do all they could for us. Dr. Mason has some personal friends among the commissioners, and we feel much elated at the prospects before us. We have asked the doctor to write up the matter for GLEANINGS. E. R.

OUR OWN APIARY.

CONDUCTED BY ERNEST R. ROOT.

THE FOUNTAIN PUMP AND RUNAWAY SWARMS.

June 11.—For a day or so back, honey has been coming in, in the regular old-fashioned way. Brood-rearing all the spring has been going on with a wonderful impetus. If this condition of things is prevalent throughout the country, it means something encouraging for bee-keepers.

Swarming has started up in our home yard, and the Whitman force pump has so far proved to be a most indispensable implement. Yesterday there was a swarm that was making off for the woods, and had got pretty well started before one of our boys could get ahead of it and head it off with the force pump. He got them driven back partly when the water gave out, and he had to run and get another pailful. Before he could get back and resume operations, the bees seemed bent on going to the woods. Again he sent a spray of water among them, forced them back, and this time made them cluster. With our Manum swarmer (another

indispensable implement) we had them secured, and, in a few minutes more, hived. By the way, if bee-keepers knew what an excellent machine that Manum swarmer is, there would be more of them in use.

AT THE SHANE YARD.

Day before yesterday I visited the Shane yard. I wheeled it down; and just the moment I arrived, a fine nice swarm was in the air. I had contemplated sitting down in the shade of a large apple-tree, and eating my lunch before beginning work; but that had to be postponed. This swarm, likewise started out for the woods; and then, oh how I wanted the fountain pump and a good big pail of water! In despair I ran to the hive whence they came, to see whether they had a clipped queen. Yes, there she was—a two-year-old queen, with both wings clipped. Before I could pick her up she went in at the entrance; and the bees, on reconnoitering to discover their queen, finally settled in two clusters. Although there were many tall trees in the vicinity, they were obliging enough to settle on the two smallest trees in the orchard, and on two of the lowest limbs at that, so I could reach them very conveniently. I soon hived them in two empty hives on empty combs. "Now," said I, "I will see whether those fellows will stay contented without brood, for some old veteran has said that brood has no effect either way." In a few minutes they both swarmed out again, and clustered. Again I put them back on dry combs, and again they both swarmed out. This time I gave each a frame of capped brood and unsealed larvæ. Again I put the bees back, and, presto! they both stayed just as quietly as if that had always been their home. Before they had their brood, they were crawling all over the hives in wild confusion, flying out at the entrance and then back. I am aware that unsealed larvæ will not *always* hold them. I have had newly hived swarms vacate in fifteen minutes, even after having given them larvæ. But as a general rule, in our experience, unsealed brood is a mighty good detainer. It makes them contented, and sort o' at home.

HOFFMAN FRAMES, AND HANDLING COLONIES IN HALVES.

As I previously stated, our Shane yard is on Hoffman frames. I have always *liked* them; but after manipulating this yard I was *delighted* with them. What fun it was to divide colonies! I could pick up four frames at a time, right from the brood-nest, with adhering bees, carry them to an empty hive, and the whole job was done, after giving each a few more empty frames. Don't you see, I handled colonies in *halves*? Then what fun it was to space the frames apart! With the wooden wedge, I entered it between the frames, gave it a little twist, and crowded the two halves of the brood-nest apart. Then in giving new frames of comb, all I had to do was to pry the combs apart and crowd them back, at one operation. But, to be frank, I must admit that I killed some bees. But remembering what Mr. Hoffman had said about blowing smoke in between the end-bars before crowding them up, I found I got along nicely and killed hardly a bee. This is on the principle of smoking bees down to put the cover on. See? Oh! there is a good deal in getting used to a thing, you know. I will tell you more about this in another column.

OUT-APIARIES AND BICYCLES; A SMART RIDER.

A Safety bicycle is a capital horse on which to go and visit out-apiaries. Since I have had the wheel I have made all my trips on it to our out-yard, when it was not muddy; and it would surprise you to know how it annihilates time in

making trips. You won't believe it, but I once rode to our out-yard, seven miles distant, then to an adjoining town, and back to Medina again, making the whole distance of twenty miles in one hour and forty minutes. I do not count in this the time occupied in two stops of 15 or 20 minutes each. I could not do that every time; but in the instance given I was trying to see how *smart* I could be. At the time I did this, I was feeling in excellent spirits and health, and the roads were in prime condition. My *average* rate on fair roads is about nine miles an hour. You remember I once made forty-five miles in five hours among those York State hills. When the roads are *very bad* I have made as many as *three* miles an hour, and walked four-fifths of the time at that. Some time, if I don't forget it, I will tell you more about bicycles and out-apiaries.

GETTING USED TO A THING.

WHY THERE ARE SO MANY DIFFERENCES OF
OPINION AMONG BEE-KEEPERS.
BY ERNEST R. ROOT.

While Mr. John H. Larrabee, of Vermont, was visiting us a few days ago, we talked over a good many things, old and new; and more than once we fell to wondering why it is that bee-keepers disagree so much as to the implements they would use.

Brown could not be induced to make even a trial of closed-end frames; and Jones has no sympathy with the man who will use loose swinging frames. Neither one can understand how the other can tolerate such awkward things. While these thoughts were passing between us mutually, "genial John" made this pertinent remark: "I tell you, Ernest, there is a good deal in getting used to a thing."

"That's it exactly," I replied. "How many times I have thought that these differences of experience, and differences of opinion in our fraternity are explainable by just this fact: 'There is a good deal in getting used to a thing.'"

I further told him that I thought a good many would not use fixed distances simply because they would not have patience to learn how to use them. Smith will try a few and exclaim: "There, that is just what I thought about them. I am not very often deceived in my impressions. I have had long experience in the apiary, and I know exactly what the bees like and what they do not like."

There are a good many such bee-keepers, and good ones, too, who, if they had a little more patience in trying some of these new-fangled notions, might save themselves a great deal of extra work. I have no doubt there are some who will give a little trial to the Hoffman frames, and then make a remark similar to the one just given. Why, the fact is, Mr. Hoffman manages 600 colonies on his frames, practically alone; and he says himself that he could not handle half that number were they on ordinary hanging frames. What I saw in his apiary, I think, abundantly bears out his statements. If what Mr. Hoffman says is true, can these bee-keepers afford not to give fixed distances a fair trial?

The other day I was talking with a bee-keeper who said, "Now, there are those bee-escapes you fellows are making such a big fuss about. I tested them a little bit last summer, and it is just as I expected. I could not make them work."

"Why," said I, "you do not know how to use them. It is all in getting use to a thing, you

know. Why! Manum takes off a whole crop of comb honey with them in a couple of hours' time, and that, too, from a whole apiary of 100 colonies; Boardman, over here at East Townsend, O., has used them for years, and he is one of those bee-keepers who will not use a thing unless it is of real substantial service in the apiary. Reese and Dibbern are both honest men, and I think they are honest and fair in their statements. Do you set up your opinion against them when you have given the escapes only just a little trial on two or three hives? It is all in getting used to a thing, you know."

About six months ago I ran across a man who was using the Clark smoker. He had tried the Bingham, and, "ugh, ugh!" he would not use one; but the Clark suited him perfectly.

"Look here, my friend," said I, "I like to hear you praise the Clark smoker; but there are thousands and thousands who use a Bingham who would not use a Clark. Personally (and I have used the Bingham quite a little too) I think it is an excellent smoker, and there are times and places when I should much rather have it than the Clark; and perhaps I may be pardoned if I say there are times when I prefer the Clark. You do not know how to use the Bingham. It is all in getting used to a thing."

A year or so ago, in an apiary where I was visiting, I observed a Stanley honey-extractor. "Hello, there!" said I. "How does it work?"

"Do not like it at all," said he. "It takes a barn to house it, and it does not reverse worth a cent. The baskets fly around and bang together, and the chains get all tangled up."

"Why, my friend," I replied, "I have been in apiaries where they were very enthusiastic over it. It worked just splendid. You have not learned the knack of reversing the baskets. I have had very little experience with the thing, but let me see if I can not show you how those other fellows do." I grasped the handle, and performed the operation quite to my own satisfaction.

"But you did not have any combs in," said he.

"Well, put some in." But he did not have any handy. Said I: "It is all in getting used to a thing. If you reverse the baskets as easily as I, you ought not to have very much trouble."

Last summer, and a year ago last summer, I tried several times the shake-out function of the Heddon hive. It worked beautifully, so far as getting the bees all over the ground and up my trousers legs was concerned, and the queen could not be found. So far I can not make it work. If my good friend Mr. Heddon were here he would, to use Mr. Larrabee's expression, say that it is all in getting used to a thing; and he would proceed to go through a tremulous motion that would leave you and me in no doubt whatever as to its successful working. Some day I hope to have the privilege of seeing Mr. Heddon perform that very operation—in a word, let him teach me how to get used to the thing.

It is all in getting used to a thing. "Look here, young Root," some of you will say, "that is not so."

Just wait a minute until I qualify. We can not get used to a thing unless that thing has real merit. If good, competent bee-keepers acquire a certain knack, whereby they can shorten one or more days of labor in the apiary, then we can. We can not explain away all these differences by locality. To be more fair, and to be nearer the truth, we should say we have not yet acquired the knack. Perhaps I can not say, in every case, that it is *all* in getting used to a thing; but I will say there is a great deal in getting used to it.—*Read at the Ohio State Convention.*

THE FUND FOR HELEN KELLER.

SOME GOOD NEWS FROM TOMMY STRINGER.

In response to the appeal in our last issue, the following friends have responded by the amounts placed opposite their names, and the sum of \$49.45 has been forwarded, that little Tommy may be emancipated from darkness to the light of civilization and Christianity.

G. W. Harrison, Copley, O.	\$ 1 00
A. A. Simpson, Swartz, Pa.	60
"Helen," Farina, Ill.	1 00
For Tommy S., Warrenton, Va.	30
E. West, Channahon, Ill.	1 00
C. V. Kintner, Carrollton, O.	1 00
G. W. Gates, Bartlett, Tenn.	1 45
"A Reader," Leawood Mills, Md.	60
A. Gardner, La Salle, Ill.	1 00
Mrs. C. B. Moore, White Plains, N. Y.	1 00
C. J. Quinby, White Plains, N. Y.	1 00
W. J. Ellison, Citchall, S. C.	2 50
"For Tommy," Crystal Springs, Miss.	1 00
J. A. Buchanan, Holliday's Cove, W. Va.	1 00
Factory Hands	10 00
Geo. O. Goodhue, Danville, Can.	5 00
A. I. Root, Medina, O.	20 00

Dear Mr. Root:—GLEANINGS for June 1st is at hand, and I am much more than pleased with the warm, whole-hearted reception and generous start you give to my little friend's unselfish appeal. The only thing I would have changed is your reference to myself, which I fear is much more than I deserve; but I thank you most sincerely for the heart that prompts such kindly feeling toward me. Yes, I am resting, a poor undeserving sinner, upon the Savior's finished work, and only regret I did not begin to follow him earlier, and that I do not serve him better. Although the amount raised for little Tommy is not nearly sufficient to educate and maintain him, still it is large enough to induce Mr. Anagnos to send for the little fellow, and make a start, and he is now at the institute in Boston. Helen is perfectly delighted. I have had two letters from her since he came. In the last one she thus speaks of him: "Tommy is well and happy, but does not like to spell yet; but that is because he does not realize what a wonderful thing our language is. When he can tell us what is in his mind, and we can tell him that we love him, he will learn very rapidly." Dear, unselfish, loving little heart! I hope, my dear kind friend, that you may some day have the pleasure of meeting her yourself here on earth. If you do you will get, I am sure, a stimulus and inspiration from her sunny, cheery disposition, loving heart, and most wonderful mind, that you will not soon forget. I shall watch with very great interest the reception her appeal receives from our brother bee keepers. I am sure it will be a most hearty one.

June 9.—Since the above writing I have received your kind letter of the 3d, with the extra copies of GLEANINGS, for which I thank you very much. I will forward same to Helen's friends in Boston at once.

Thanking you again most sincerely for all your very great kindness, I remain—
Danville, Que. GEO. O. GOODHUE.

SPECIAL NOTICES.

THE IMPROVED BENTON CAGE.

This cage, spoken of elsewhere, will be sent complete, filled with candy, with directions for introducing, etc., as well as instructions to the postal authorities, 3 for a dime; 10 for 25 cts.; 100 for \$2.00. Without candy or wire cloth, one-half these prices. If sent by mail, add one cent per cage extra.

LAWN-MOWERS FIVE PER CENT OFF.

Now is the time when you need a good lawn-mower to keep your yard and apiary clipped down and looking neat. To reduce our large stock of machines, as shown on page 50 of our price list, also on next page of this number, we will give a special discount of five per cent for the next 60 days to all who order from this notice, and mention it.

BUSINESS AT THIS DATE.

Every day brings encouraging reports for a good honey yield, and the bright outlook is very marked in the increase of orders so far this month. For the

first two weeks of June we have received nearly as many orders as during the whole month of May; and notwithstanding this increase we are keeping up close, most orders being filled in three days or less after they reach us.

OLD-STYLE DOVETAILED HIVES.

We still have a good supply of the last year's pattern of Dovetailed hives, all ready to ship at a moment's notice, at 10 cents each less than prices of present make, given on page 21 of our price list. The only difference is, that they have no followers, wedges, nor division-boards, and are $\frac{1}{2}$ inch narrower. The same discounts for quantity and to dealers apply.

HONEY QUEENS.

We have a good stock of them in the South, and our Southern breeder writes that they are very nice. Price 25 per cent more than our regular queens; viz., untested honey queens, each, this month, \$1.56; in July, \$1.25. Tested honey queens, each, this month, \$3.33; same in July, \$2.50. These queens are bred from a mother whose bees were remarkable as honey-gatherers. While the bees of these queens may not equal the bees of the original queen in energy, the chances are that they will. Their bees are rather leather-colored than otherwise.

JAPANESE BUCKWHEAT.

This has been going off very rapidly within the past few days, and by the time this reaches our readers we shall doubtless be sold out of all seed available that we know of. We may find more, so as to keep up all orders, but shall not be able to sustain present prices. If any of our readers in this or adjoining States have any choice seed to sell, let us know at once how much you have, and what you want for it. In this way we will try to divide up so that all can be supplied, and we will bill it at the lowest price we can, depending on what we have to pay.

OLD-STYLE EXTRACTORS CHEAP.

A year ago we began making our honey-extractors of two-cross tin, and with larger honey-gate; also about two inches deeper, to prevent honey going over the edge. We have still on hand a few of the old-style machines that will answer just as well for those who have only a small amount of extracting to do. We will sell these, to close out, as follows:

No. 1, for Gallup frame, 11 $\frac{1}{4}$ x 11 $\frac{1}{4}$, at \$5.00. We have four of these.

No. 5, for Simp. or L. frame, \$5.50. We have five of these.

No. 5, with 50 lbs. extra room below, \$6.00. We have nine of these.

No. 8, fo. frames up to 12 inches deep and 18 inches long, \$6.50. We have five of these.

No. 9, for frames up to 13 inches deep and 18 inches long, \$6.50. We have only one.

WHITE AND CREAM SECTIONS.

We have finally got out of the woods on sections. For over a year, excepting the time between August and March last, when we had choice lumber from Michigan, we have been crippled, both in quantity and quality of our output of sections, because of a scarcity of suitable dry white basswood. Having two very open winters in succession, with soft ground, and roads almost impassable, we failed in getting a getting a good supply of basswood lumber cut. In order that it may dry white, suitable for sections, it must be cut in winter. The cream sections we have been offering are made from lumber just as good in every respect as the very best, except color; and this off color was caused by its being cut in warm weather. Last winter was quite favorable, and we have secured nearly twice what we usually use in one season, of the nicest white basswood we ever had. Over half of this (400,000 ft.) is to come from Michigan. We have been using from this year's lumber for the past three months, by kiln drying, and picking out the driest planks we could find; but till within a short time it has not worked to our satisfaction. Where complaints of poor quality have been made, we have endeavored, by rebate and otherwise, to give satisfaction. As we say, we are now out of the woods, having an almost unlimited supply of choice lumber, and hope that from now on we shall have more of praise and less complaint of the quality of our sections, as we have begun to have already. We are out of cream

sections 1½ wide, but still have a good supply of 1½ and 7 to foot, at 50 c. per 1000 less than catalogue price of No. 1 white.

Positively by Return Mail.

After June 20th, we shall be prepared to ship our beautiful Golden Carniolan and Golden Italian queens by return mail.

PRICES OF ITALIAN QUEENS.

WARRANTED.	TESTED.	SELECT TESTED.
1 queen, \$ 1.25	1 queen, \$ 2.00	1 queen, \$ 3.00
2 " 2.25	2 " 3.75	2 " 5.50
6 " 6.50	6 " 10.00	6 " 15.00
12 " 12.00	12 " 18.00	

Golden Carniolan queens each \$2.00.

If you rather see these queens before paying for them you can. Safe arrival and satisfaction promised in all cases. **HENRY ALLEY, WENHAM, MASS.**

Please mention this paper.

ITALIAN 100 QUEENS.

Untested Queens, 60 cts. each. \$6.00 per dozen. Now ready to mail. 9tfdb

H. Fitz Hart, Avery p. o., New Iberia, La.

☞ In responding to this advertisement mention GLEANINGS.

LITHOGRAPH LABELS

In 12 Colors, at \$2.00 per 1000.

The 12 colors are all on each label. They are oblong in shape, measuring 2½x2½. They are about the nicest labels we ever saw for glass tumblers, pails, and small packages of honey. We will mail a sample, inclosed in our label catalogue, free on application, and will furnish them postpaid at the following prices: 5 cts. for 10; 35 cts. for 100; \$1.20 for 500; \$2.00 for 1000. **A. I. ROOT, Medina, O.**

PATENT WIRED FOUNDATION.

The Greatest FOLLY of MODERN BEE-KEEPING is WIRING BROOD-FRAMES.

OUR WIRED BROOD FOUNDATION is BETTER, CHEAPER, and not HALF the trouble to use that it is to WIRE FRAMES. Many may confound the two, but they are ENTIRELY different. **J. VAN DEUSEN & SONS, Sole Manufacturers, Sprout Brook, Mont. Co., N. Y.**

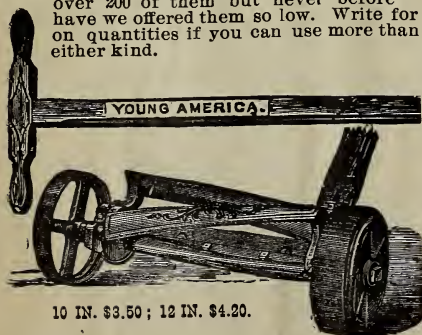
☞ In responding to this advertisement mention GLEANINGS.

6-4d

YOUNG AMERICA

LAWN MOWER.

The cheapest machine offered anywhere. Many prefer them to one with two drive wheels because they run so easily, and are so light. They are just right for running among the hives. For the ladies who appreciate outdoor exercise you could have nothing better than a 10-inch Young America lawn-mower to keep the grass down on the lawn. We have sold over 200 of them but never before have we offered them so low. Write for prices on quantities if you can use more than one of either kind.



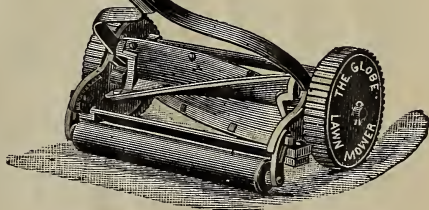
10 IN. \$3.50; 12 IN. \$4.20.

THE GLOBE LAWN-MOWER.

Guaranteed a First-Class Machine. The Globe lawn-mower shown in cut combines all the best features, and is a first-class mower in every respect. Having only three knives it will cut longer grass than those having four. The axle of the drive-wheel does not project, so that you can run close to the hive. It has two drive-wheels and roller, and the driving gears are simply perfect. The prices are very much lower than on any other first-class mower.

TABLE OF PRICES:

	LIST	OUR
	PRICE	PRICE
10 in. Globe....	(\$13.00)...	\$4.55
12 " "	(15.00)....	5.25
14 " "	(17.00)....	5.95
16 " "	(19.00)....	6.65
18 " "	(21.00)....	7.35



A. I. ROOT, Medina, Ohio.

3-FRAME NUCLEI. COLONIES. BEES BY THE POUND.

With young laying Italian queens, on and after June 15th; also **Warranted Queens**. Nucleus colonies will be on L. frames, and brood in every frame and nice queen. Queen-cells built in full colonies. With many years experience, and carefully selected drones not akin to my breeding queen, and no black bees within six miles, I feel confident I can surely please all. Every queen warranted purely mated, large and yellow. Every queen will be laying when shipped. I have doubled my number of breeding hives and shall endeavor to ship every queen promptly. Send for circular telling how to introduce queens safely. Nucleus colonies \$4.00 each. Bees by the pound, \$1.75. Warranted Queens, 75 cts. each.

JAMES WOOD,

NO. PRESCOTT, MASS.

Please mention this paper.

FOR ALBINO AND GOLDEN ITALIAN QUEENS, SEND TO A. L. KILDOW, SHEFFIELD, ILL.

1 untested Albino, \$1; 6 for \$5.
1 tested Albino, June and July, \$1.75; August and September, \$1.50.

1 select-tested Albino, Aug. and Sept., \$2.50.

1 untested Italian, June, \$1; July to Sept., 75 cts.

1 tested Italian, June and July, \$1.50; August and September, \$1.25.

1 select-tested Italian, June, \$2.50; after June, \$2.

For particulars, send for descriptive catalogue.

☞ In responding to this advertisement mention GLEANINGS.

ITALIAN

QUEENS AND BEES, and Fine Poultry. Send for price list.

I. L. PARKER,
9tfdb Tracy City, Tenn.

☞ In responding to this advertisement mention GLEANINGS.

IF YOU WANT BEES

That will just "roll" in the honey, try **Moore's Strain of Italians**, the result of twelve years' careful breeding. Prices in June: Warranted queens, \$1.00 each; 3 for \$2.50. Strong 3-frame nucleus, with warranted queen, \$3.00. Safe arrival and satisfaction guaranteed. Those who have never dealt with me I refer to A. I. Root, who has purchased of me, during past 11 years, 505 queens. Circulars free. 10-11-12d

J. P. MOORE, Morgan, Pendleton Co., Ky.
Money-order office, Falmouth, Ky.

Please mention this paper.

7d

Bee-Hives, Sections, Etc.

BEST GOODS at LOWEST PRICES.

We make 15,000 sections per hour. Can fill orders promptly. Write for free, illustrated catalogue.

G. B. LEWIS CO., WATERTOWN, WIS.

In responding to this advertisement mention GLEANINGS.

On Their Own Merits.

I am making a specialty of breeding **Golden and Albino Italian Queens**. My five-banded bees are equal to any as honey-gatherers, and they are the most beautiful and gentlest bees known. Warranted queens, May, \$1.25; six for \$6; after June 1, \$1; six for \$5. Satisfaction guaranteed. I have a few 3-banded tested queens at \$1 each.

CHARLES D. DUVAL,

Spencerville, Montgomery Co., Md.

Please mention this paper.

9ftdb

CONTROL YOUR SWARMS.

N. D. West's coil-wire queen-cell protectors will do it, and you can **REQUEEN** your apiary during the swarming season. Pronounced the **BEST** by such men as

CAPT. J. E. HETHERINGTON, CHERRY VALLEY, N. Y.,
P. H. ELWOOD, STARKVILLE, N. Y.,

and others. Cell-protectors, \$3.00 per 100, or 12 for 60c, by mail. Cages, \$5.00 per 100, or 12 for \$1.00, by mail. Samples of both, with circular explaining, 25 cts. See cut and description on page 321. Patent applied for. Address 8ftdb

N. D. WEST, MIDDLEBURGH, SCHOHARIE CO., N. Y.

In responding to this advertisement mention GLEANINGS.

IT WILL PAY YOU

To Send for my Illustrated Catalogue of

APIARIAN SUPPLIES

Before placing your orders. I have a lot of very nice No. 2 sections at \$2.00 per 1000.

J. C. SAYLES, HARTFORD, WISCONSIN.

8ftdb

Please mention this paper.

THE CANADIAN

Bee Journal **Poultry Journal**

Edited by D. A. Jones. Edited by W. C. G. Peter.

75c. Per Year.

75c. Per Year.

These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

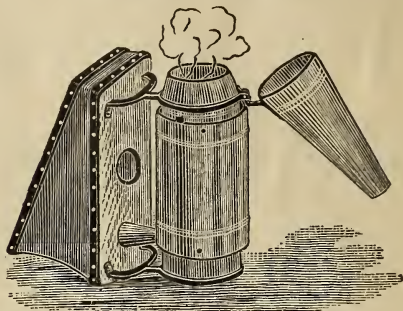
The D. A. Jones Co., Ltd., Beeton, Ont.

In responding to this advertisement mention GLEANINGS.

MUSICAL INSTRUMENTS

MURRAY & HEISS
CLEVELAND OHIO.
SEND FOR CATALOGUE.

Please mention this paper.



Smokers, Foundation, and all kinds of bee-keepers' supplies furnished at lowest cash price. If you want the best Smoker in the market get one of the Quinby old reliable—made the strongest; and although the first cost is more than that of any other made, the Jumbo is the boss of all. It has been used constantly in yards for 8 years, and still it goes. Send and get price list of Smokers, Foundation, Sections, and every thing used in the apiary. Dealers should send for dealer's list on smokers.

4-14db

W. E. CLARK, ORISKANY, N. Y.

In responding to this advertisement mention GLEANINGS.

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

6-1ftdb

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,
Nappanee, Ind.

In writing advertisers please mention this paper.

MY 23D ANNUAL CATALOGUE OF ITALIAN, CYPRIAN, and HOLY-LAND BEES, QUEENS, NUCLEI, COLONIES, and SUPPLIES; also EGGS FOR HATCHING, can be had by sending me your address. **H. H. BROWN, Light St., Col. Co., Pa.**

In responding to this advertisement mention GLEANINGS.

ITALIAN QUEENS.

Tested queens, after June 1st, \$1.00; Untested, 75 cts.

S. & M. BARNES, PIKETON, OHIO.

Please mention GLEANINGS.

12-13d

HARNESSES FOR CARPET-WEAVING, made to order, all complete for \$2.00. 12d

MRS. JOHN A. BARRETT, Cherry Valley, O.
Please mention this paper. 6ftdb

FOR SALE.

One 14-horse-power traction engine; coal and wood burner, in good running order, with hose and water-tank. Will deliver on board of cars at Centreville for \$650. **MRS. J. H. ROBERTS,**

12-13-14d

Meeme, Manitowoc Co., Wis.

Please mention this paper.

THE STAR APIARY

can furnish you fine Italian Bees and Queens, also Bee-keepers' Supplies, at regular prices. Price list free. 12d **MILLER BROS., Bluffton, Mo.**

ITALIAN QUEENS FOR SALE.

May or June, tested, \$1.50; untested, \$1.00. July and August, tested, \$1.00; untested, 75 cts. Bees at \$1.00 per lb. Make money order payable at Waynesburg, Greene Co., Pa. **MRS. A. A. SIMPSON,** Swarts, Pa. 9-16db

Please mention this paper.

FOUNDATION & SECTIONS are my specialties. No. 1 V-groove Sections at \$3.00 per 1000. Special Prices to dealers. Send for free price list of every thing needed in the apiary. **M. H. HUNT,** 1tfdb Bell Branch, Mich.

(In responding to this advertisement mention GLEANINGS.

♠ Queens • From • Texas. ♠

Kind friends, I have untested Italian queens from now till September, at 75c each; \$4.00 for 6, or \$7.25 per doz. I have shipped hundreds this spring, and all by return mail so far. I have my breeding yards kept out on the lone prairie at safe distance. Give me your orders and see how promptly I can fill them. 100 nuclei running. 10tfdb

MRS. JENNIE ATCHLEY, Box V., Farmersville, Tex.

In writing to advertisers please mention this paper. 3-8db

STOP! THINK! ACT!

Griffith's Italian queens will give you strong colonies, plenty of honey, and nice bees. 7-12db

Untested queens in May, \$1.00.
" " in June, July, and Aug., 75c.
Tested " in May, \$1.25.
" " in June, July, Aug., & Sept., \$1.00.

All queens reared from best imported and choice home mothers. Safe arrival guaranteed. Address all orders to **B. C. GRIFFITH,** Griffith, N. C. Postoffice order on Charlotte, or reg. let. to Griffith. Please mention this paper.

Queens! Queens! Queens!

If you want bees that will beat any thing you ever saw in every respect, try our strain of Italians. Warranted queens, each, \$1.00; six, \$4.50. 8-9-10d

ORDER NOW, PAY UPON ARRIVAL.

JAS. & F. B. YOCKEY, NORTH WASHINGTON, WESTM'D CO., PA.

(In responding to this advertisement mention GLEANINGS.

Established 1878.

SMITH & SMITH,

Wholesale and Retail Manufacturers of

BEE-KEEPERS' SUPPLIES.

KENTON, OHIO.

Price List Free. 4tfdb Mention Gleanings.

~~~~~MUTH'S~~~~~ Honey - Extractor.

Square Glass Honey-Jars,
Tin Buckets, Bee-Hives
Honey-Sections, &c., &c.
Perfection Cold-Blast Smokers.

APPLY TO

CHAS. F. MUTH & SON, Cincinnati, O.

P. S.—Send 10-ct. stamp for "Practical Hints to Bee-keepers." Please mention this paper.

CARNIOLAN QUEENS

FROM IMPORTED MOTHERS.

SEND FOR PRICE LIST.

11-14db

M. W. STRICKLER, YORK, PA.

(In responding to this advertisement mention GLEANINGS.

Bee-Keepers' Supplies.

Hives, Honey-Cases, Sections, and Frames. We are the only concern in Southern California who make a

SPECIALTY OF BEE-KEEPERS' MATERIAL

Agents for the white basswood 1-lb. sections. Send for catalogue and price list.

OCEANSIDE MILL CO.,

Oceanside, Cal.

1-12db

(In responding to this advertisement mention GLEANINGS.

Syracuse, New York,

IS A DEPOT FOR THE EAST FOR ALL OF A. I. ROOT'S APIARIAN SUPPLIES.

FOUNDATION is Our Own Make.

Don't buy foundation of us, for it would please you.

F. A. SALISBURY.

Our foundation is for sale by H. Alley, Wenham, Mass., and Model B. Hive Co., W. Philadelphia, Pa. In writing to advertisers please mention this paper. 4tfdb

NOW, FRIENDS, LOOK HERE!

I sell the Nonpareil Bee-Hive, White Poplar Sections, Italian Bees and Queens. Price List free. Write for one. 8tfdb

A. A. BYARD, West Chesterfield, N. H.

(In responding to this advertisement mention GLEANINGS.

J. W. Taylor's Fine Italian * * *

*** * * and Albino Queens for Sale.**

Cheap tested Italian, \$1.50 each. Tested Albinos, \$1.50 each. Tested golden Italian, \$2.00 each. Untested queens, 75 cts. each; \$8.00 per doz. I guarantee safe arrival by mail. 9tfdb

J. W. TAYLOR, Ozan, Ark.

Please mention this paper.

TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. **PAGE, KEITH & SCHMIDT CO.,** 21-12db New London, Wis.

(In responding to this advertisement mention GLEANINGS.

A Bee-Hive Free

From all objections. For description and prices see our circular. One-piece V-groove sections, per M., \$3; 3000, \$8.50; 5000, \$13.75. Brood frames, L. size, \$1.00 per 100. Hunt's foundation, Bingham smokers, Abbott honey-knives, Hill's smokers and feeders, 10,000 Parker foundation fasteners on hand. Send for price list. **W. D. SOPER & CO.,** 118-120 Washington St., Jackson, Mich.

19-17d

Please mention this paper.

The Greatest Invention of the Age!

BEES MADE TO LIVE THEMSELVES.

Full particulars free. Address

5-tfd

H. ALLEY, Wenham, Mass.

(In responding to this advertisement mention GLEANINGS.

A Four-Color Label for Only 75 Cts. Per Thousand.

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½x1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, O.

WINTER BEES SAFELY AND CHEAP

—BY USING OUR—

NEW OUTSIDE WINTER-CASE

—on your Dovetailed hives, or with our—

New Thin-Walled Hive.

The outside case, with either a regular Dovetailed hive or our Thin-Walled Hive, makes the **CHEAPEST** and **SAFEST** winter hive made; and our Thin-Walled Hive is the **CHEAPEST** and **MOST CONVENIENT**. It is the same size as the 8-frame Dovetailed hive, and contains the same inside furniture. Send for special illustrated circular. Address

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

Catalogue of all bee-supplies, and sample copy of **AMERICAN BEE-KEEPER**. (The Am. Bee-keeper is a 24-page monthly, 50c a year.)

Please mention this paper.

1878 DADANT'S COMB FOUNDATION. 1891

HALF A MILLION LBS. SOLD IN THIRTEEN YEARS. OVER \$200,000 IN VALUE.

It is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Neb.; G. L. Tinker, New Philadelphia, O.; E. Kretschmer, Red Oak, Ia.; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wis.; J. Mattoon, Atwater, O.; Oliver Foster, Mt. Vernon, Ia.; C. Hertel, Freeburg, Ill.; E. T. Abbott, St. Joseph, Mo.; **E. Lovett, San Diego, Cal.; E. L. Gould & Co., Brantford, Ont., Can.;** Page, Keith & Schmidt, New London, Wis.; J. Stauffer & Son, Nappanee, Ind.; Berlin Fruit-box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Davenport, Ia.; C. Theilman, Theilman-ton, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.; Walter S. Pouder, Indianapolis, Ind.; Martin & Co., 1141 15th St., Denver, Col.; I. D. Lewis & Son, Hiawatha, Kan.; F. C. Erkel, LeSueur, Minn.; Mrs. J. N. Heater, Columbus, Neb.; Buckeye Bee Supply Co., New Carlisle, O.; Levering Bros., Wiotia, Ia.; G. Dittmer, Augusta, Wis., and numerous other dealers.

It is **the Best**, and guaranteed every inch equal to sample. All dealers who have tried it have increased their trade every year.

SAMPLES, CATALOG. FREE TO ALL. SEND YOUR ADDRESS.

1852

LANGSTROTH ON THE HONEY-BEE. Revised.

1891

Those who wish a book in which they will find, without difficulty, whatever information beginners desire, should send for this work. Its arrangement is such that any subject and all its references can be found very readily, by a system of indexing numbers. It is the most complete treatise in the English language.

—A FRENCH EDITION JUST PUBLISHED.—

HANDLING BEES, PRICE 8 CTS.

is a chapter of the Langstroth revised, and contains instructions to beginners on the handling and taming of bees.

Bee-veils of Best Imported Material. Samples **FREE**. Smokers, Honey Sections, Extractors, Tin Pails for Honey, Etc. Instructions to Beginners with Circular, Free.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention this paper.